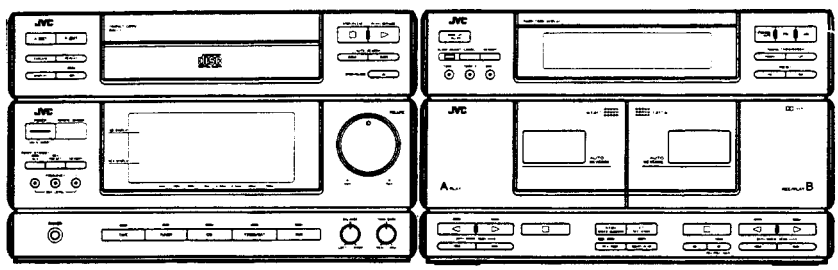
CA-MX1BK
CA-MX1LBK

JVC

SERVICE MANUAL

COMPACT STEREO COMPONENT SYSTEM

CA-MX1BK
MODEL No. CA-MX1LBK



COMPACT disc DIGITAL AUDIO

This Service Manual is mainly for Accessory List , Packing Materials , Part Numbers and Instruction Book . About the disassembly procedure , adjustment procedure and so on , we issued another two Service Manuals for DR-MX1BK/LBK and AX-MX1BK/LBK , so please refer to them.

Component

Compact component [CA-MX1] is a unit composing of the following units.

Model No.	Unit No.	Model No.	Service Manual No.
CA-MX1	CD Amplifier	AX-MX1 547	No. 20179
	Deck Tuner	DR-MX1 544	No. 20180

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April 1990

Accessories List

⚠	Part Number	Part Name	Q'ty	Description	Areas
	E30580-1616A	Instruction Book	1		J
	E30580-1617A	Instruction Book	1		Except J,LBS,LGI
	E30580-1617ABS	Instruction Book	1		LBS
	E30580-1618A	Instruction Book	1		LGI
	BT20047D	Warranty Card	1		J
	BT20029C	Warranty Card	1		A
	BT20060	Warranty Card	1		LBS
	BT-20117	Warranty Card	1		LG
	BT-20119	Audio Warranty Card	1	for New Zealand	A
	BT-20108A	Service Information Card	1		J
	BT20044F	Safety Instruction Sheet	1		J
	BT20066A	EEC Agency	1		LBS
	EQB4001-016	AM Loop Antenna	1		
	EWP502-001	Biult in Antenna	1		Except LG
	E304084-001	Loop Stand	1		
	E67007-001	Wire Antenna	1		LG
	QZL1008-001	FTZ Instruction Sheet	1		LG
	E43486-340A	Safety Sheet	1		LBS
	E67142-T3R15	Fuse Label	1		U
⚠	QMF51A2-3R51S	Fuse	1		U
	EMZ2001-011	Adapter	1		LGI,LEV
	UM-4NJ-2PSA	Battery	1		
	EWP103-009	Speaker Cord Ass'y	2		
	EWP103-010	Speaker Cord Ass'y	2		
	QPGA005-00703	Envelope	1	for Fuse and Fuse label	U
	E66416-003	Envelope	1	for Warranty Card	J
	E41202-2	Envelope	1		Except J,LBS
	E41202-2B	Envelope	1		J,LBS

⚠ Safety Parts

The Marks for Designated Areas	
J·····the U.S.A	LGI·····Italy (with LW)
A·····Australia	LEV·····Switzer Land (with LW)
LE,LEF·····Continental Europe (with LW)	U·····Other Countries
LBS·····the U.K. (with LW)	**No mark indicates all areas.**
LG·····West Germany (with LW)	

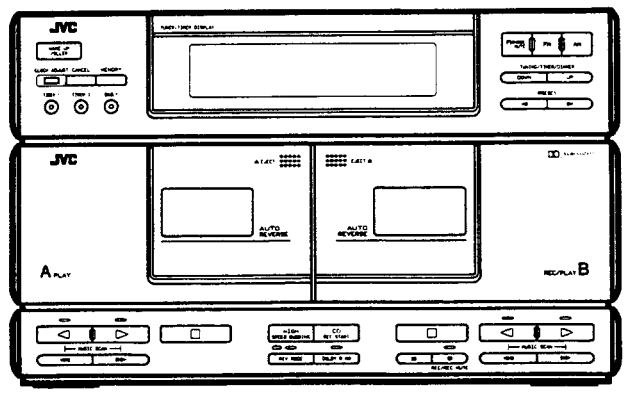
JVC

SERVICE MANUAL

DR-MX1BK

MODEL No. DR-MX1LBK

(For CA-MX1BK/LBK)



Use CA-MX1BK/LBK's Service Manual (No. 20178) as the Instructions Manual

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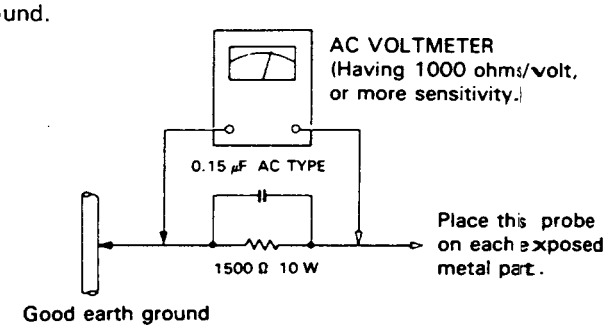
Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5 mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Specifications

CD / Amplifier Component

	Dimensions	10-7/8x6-3/4x12-3/8 inches (275x170x314 mm)
	Weight	15.0lbs (6.8kg)
Ampifier	Output Power	Main (SPEAKERS A): **30 watts per channel, min. RMS, both channels driven into 8 ohms, from 20Hz to 20kHz, with no more than 0.9% total harmonic distortion.** Subwoofer (SPEAKERS B): 20 watts per channel, into 3 ohms, at 80Hz, with 0.9% total harmonic distortion.
	Total Harmonic Distortion at Half-Rated Power	0.3%
	Input Sensitivity/ Impedance (1kHz) VIDEO/DAT, AUX	300mV/40k ohms
	SEA Center Frequencies	63, 160, 400, 1k, 2.5k, 6.3k, 16kHz
	SEA Control Range	± 10dB
Compact Disc Player	Dynamic Range (1kHz)	90dB
	Signal-to-Noise Ratio	100dB
	Frequency Response	5Hz-20kHz
	Wow and Flutter	Unmeasurable

Tape Deck / Tuner Component

	Dimensions	10-7/8x6-3/4x10-3/4 inches (275x170x273 mm)
	Weight	7.3 lbs (3.3 kg)
Tape Deck	Frequency Response	Metal : 30-17,000Hz CrO_2 : 30-16,000Hz Normal: 30-15,000Hz
	Wow and Flutter	0.08% (WRMS)
FM Tuner	Usable Sensitivity	0.95μV/75 ohms (10.8dBf)
	Signal-to-Noise Ratio (1HF-A Weighted)	MONO (at 85dBf) 80dB STEREO (at 85dB) 73dB

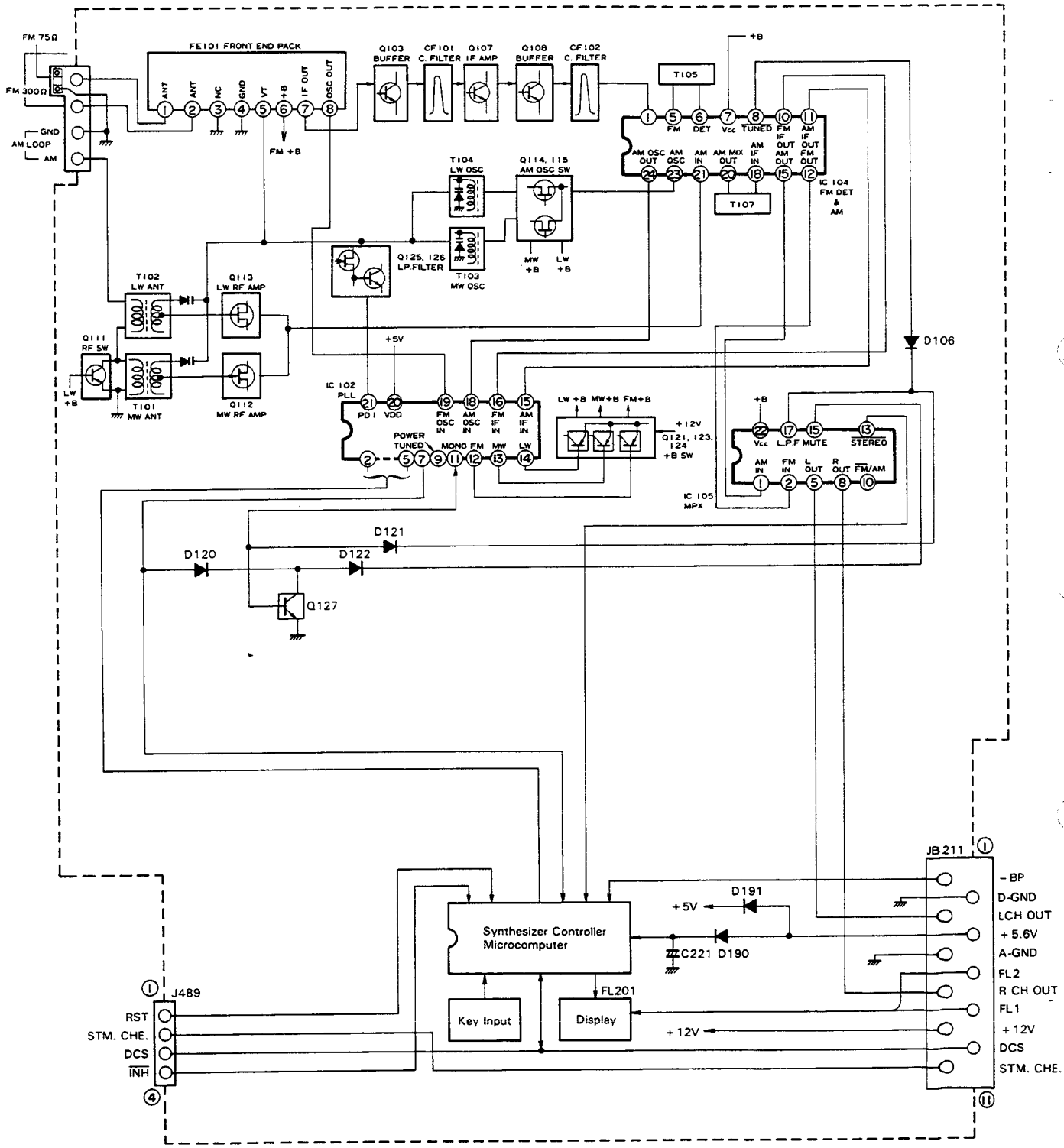
General

Power Requirements	AC120V∿, 60 Hz
Power Consumption	200 watts

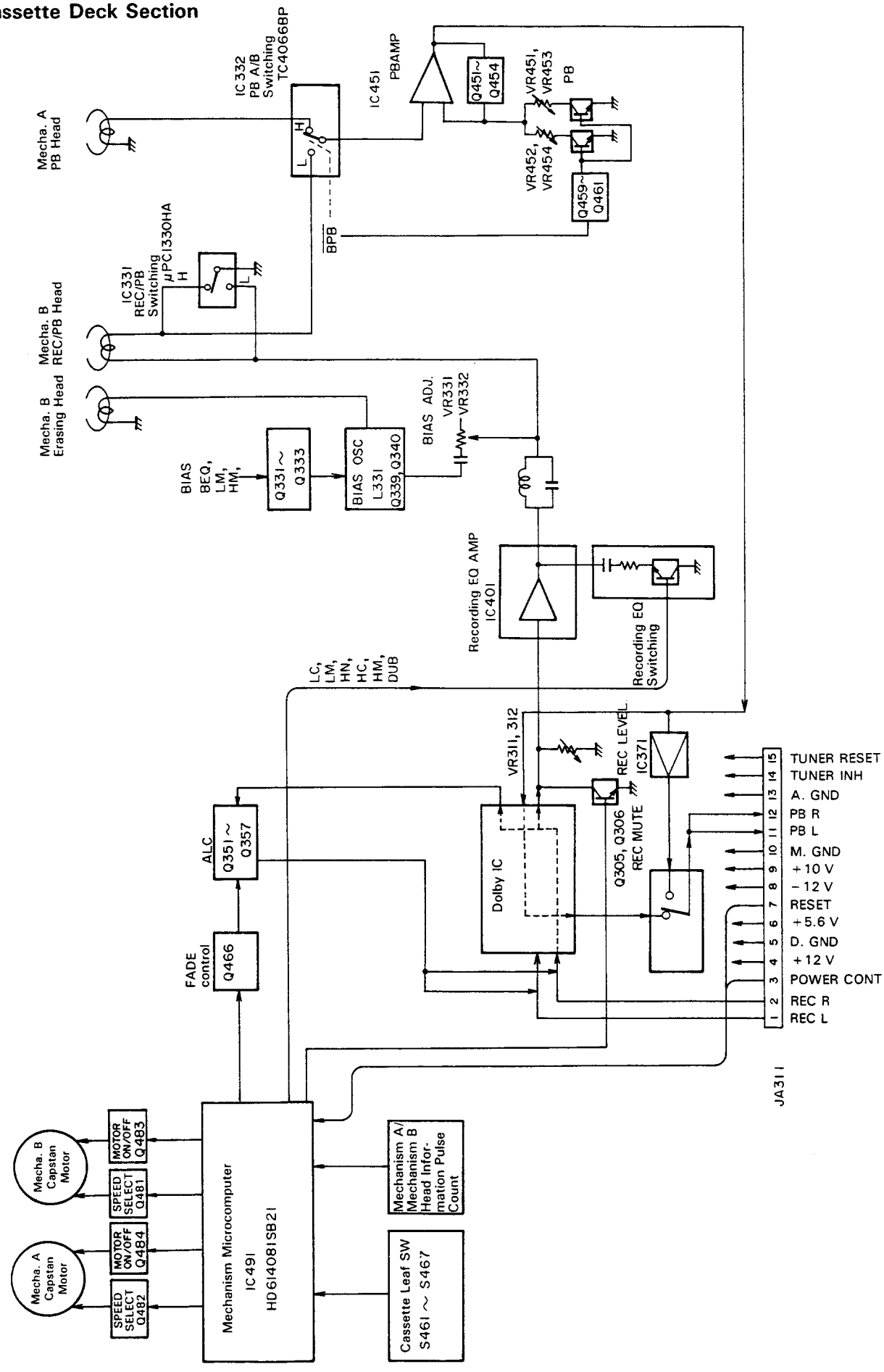
Design and specifications subject to change without notice.

Block Diagram

(1) Tuner Section



(2) Cassette Deck Section



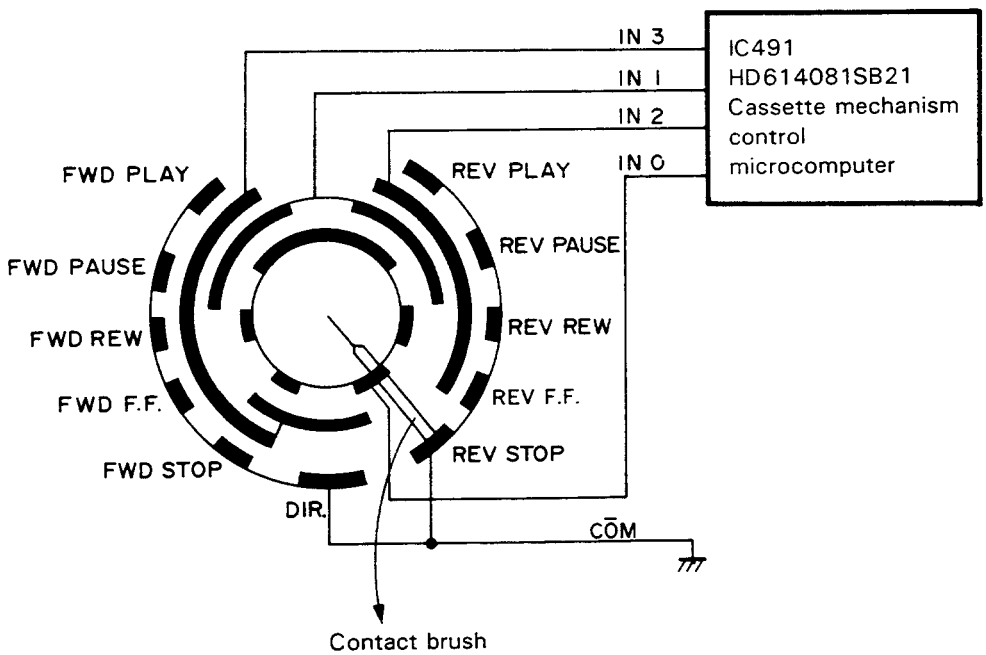
Description of Functions of Cassette Deck

1. **The deck microcomputer has a deep relationship with the system microcomputer. However, the basic clock signals are operated independently.**
   This model's deck microcomputer is operated by receiving the RESET signals from AX-MX1BK's system microcomputer (IC502) and the INH control signals. Also, this deck microcomputer obtains cam position information as its input for grasping mechanism information and, based on the contents of these information, operates the mechanism and/or controls the deck's AMP system. The cam switch is worked by the capstan motor and solenoid, and constitutes a most vital swtich.

• **Role of Cam Switch**

The cam switch serves to offer information relating to the mechanism's state and the head's position to the microcomputer.

1) With the power switched ON, confirm that the microcomputer's mechanism lies in its STOP position. If it lies in any other position, work the capstan motor and solenoid and stop it at the FWD or REV STOP position.
2) The microcomputer will sense other positions relatively with this stop position as the standard.
   Whenever the contact brush indicating the head's position passes through other contact positions and generates pulses, the microcomputer processes these pulses and obtains information on the head's current position.
3) The head and pinch roller will be actuated with this motor, but the head's direction will be changed mechanically by the cam at the DIRECTION position.



2. **The deck unit's mechanism A (playback only) and mechanism B (recording/playback) are both reversible mechanisms.**
   Mechanism A and mechanism B are respectively worked independently, so as long as signal exchange is performed properly, then even if mechanism A operates improperly, for example, the deck can be operated as long as mechanism B functions properly.

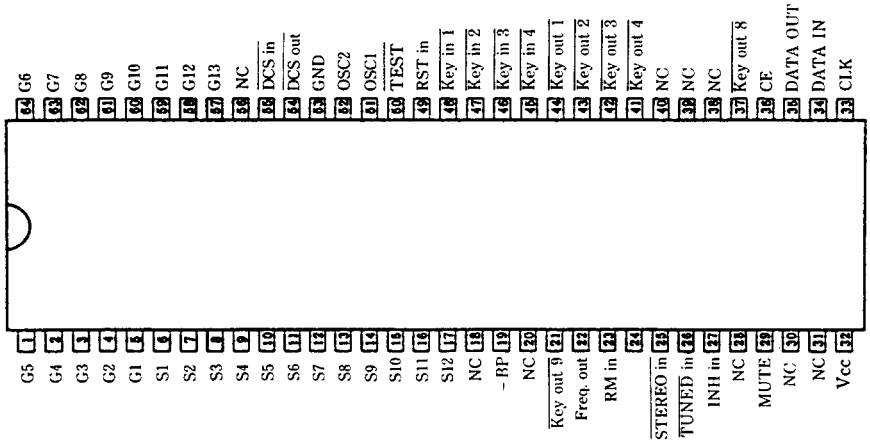
Description of Main ICs

■ IC201: HD614089SB81

(1) Characteristics

1. An FM/AM all-band PLL frequency synthesizer can be formed.
   (Combination)
   IC102: LC7218 PLL synthesizer IC
2. All functions can be displayed in integration by FL.
3. Mutual linkage with various equipment is possible by using DCS data.
4. Backup is possible with the capacitor.
5. Incorporated with four systems TIMER1, TIMER 2, SLEEP TIMER/WAKE-UP TIMER and DAILY.

(2) Outside View



(3) Pin Function

Pin No.	Symbol	I/O	Functions and Operations
1	G5	O	FL grid control output
2	G4	O	
3	G3	O	
4	G2	O	
5	G1	O	
6	S1	O	FL segment control output
7	S2	O	
8	S3	O	
9	S4	O	
10	S5	O	
11	S6	O	
12	S7	O	
13	S8	O	
14	S9	O	
15	S10	O	
16	S11	O	
17	S12	O	
18	NC	—	Not usable with this model
19	−BP	I	Power source for FL drive circuit
20	NC	—	Not usable with this model
21	$\overline{\text{Key out 9}}$	O	Key matrix output
22	Freq. out	O	Test signal output
23	$\overline{\text{RM}}$ in	I	Pull up
24		—	Power source voltage (+5V)
25	$\overline{\text{STEREO}}$ in	I	STEREO indicator input
26	$\overline{\text{TUNED}}$ in	I	TUND indicator input
27	$\overline{\text{INH}}$ in	I	Inability signal input
28	NC	—	Not usable with this model
29	MUTE	O	Muting output
30	NC	—	Not usable with this model
31	NC	—	Not usable with this model
32	Vcc	—	Power source voltage (15V)

Pin No.	Symbol	I/O	Functions and Operations
33	CLK	O	Clock signal output to LC7218
34	DATA IN	I	Data signal input from LC7218
35	DATA OUT	O	Data signal output to LC7218
36	CE	O	Ihobal? signal output to LC7218
37	$\overline{\text{Key out 8}}$	O	Key matrix output
38	NC	—	Not usable with this model
39	NC	—	
40	NC	—	
41	$\overline{\text{Key out 4}}$	O	Key matrix output
42	$\overline{\text{Key out 3}}$	O	
43	$\overline{\text{Key out 2}}$	O	
44	$\overline{\text{Key out 1}}$	O	
45	$\overline{\text{Key in 4}}$	I	Key matrix input
46	$\overline{\text{Key in 3}}$	I	
47	$\overline{\text{Key in 2}}$	I	
48	Key in 1	I	
49	RST in	I	Reset signal input
50	$\overline{\text{TEST}}$	—	Power source voltage (+5V)
51	OSC1	I	Clock oscillation input
52	OSC2	O	Clock oscillation output
53	GND	—	GND
54	$\overline{\text{DCS}}$ out	O	DCS signal output
55	$\overline{\text{DCS}}$ in	I	DCS signal input
56	NC	—	Not usable with this model
57	G13	O	FL grid control output
58	G12	O	
59	G11	O	
60	G10	O	
61	G9	O	
62	G8	O	
63	G7	O	
64	G6	O	

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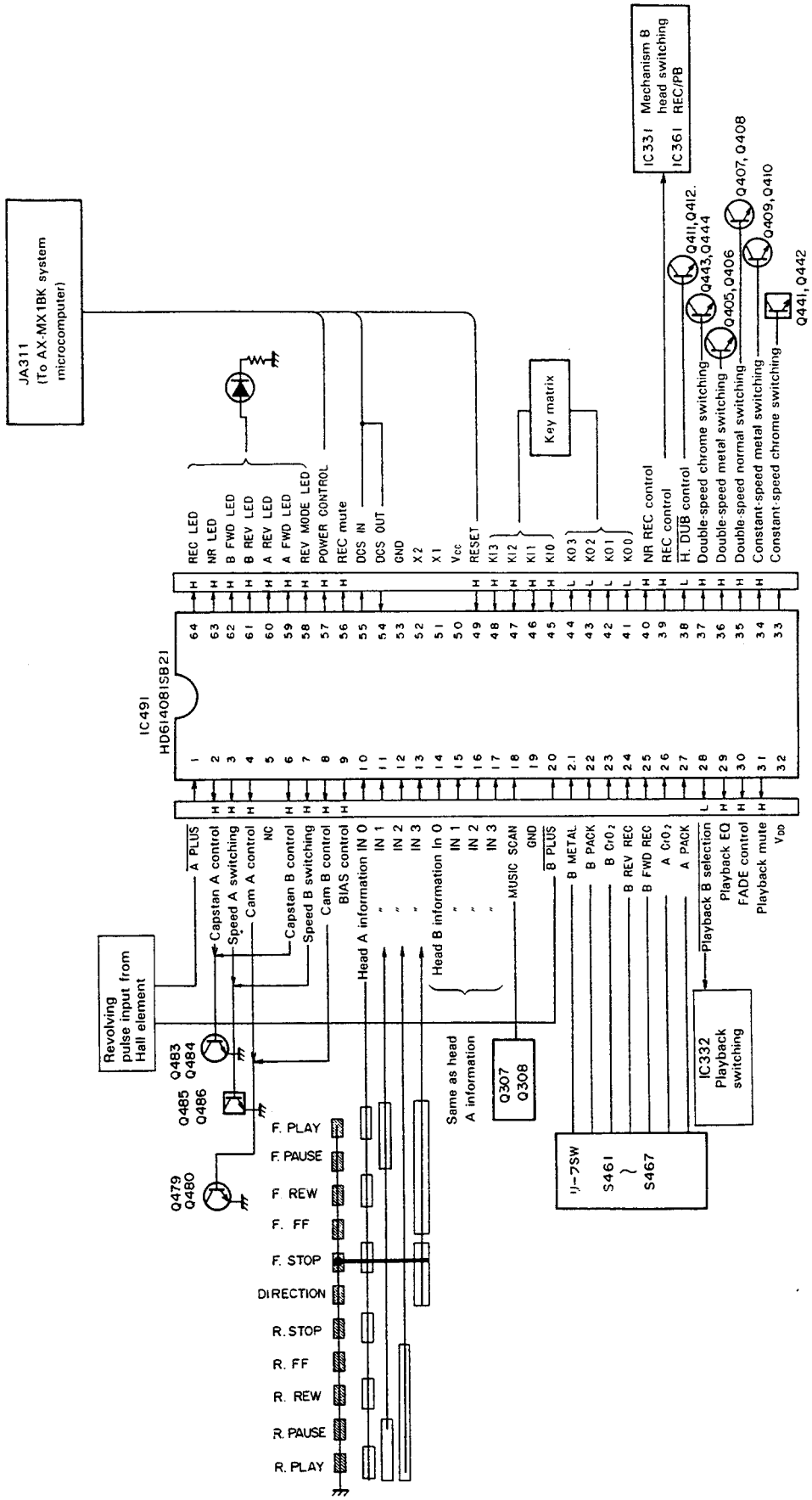
■ IC491 : HD614081SB21

Description of Peripheral Parts of Cassette Mechanism and Control Microcomputer



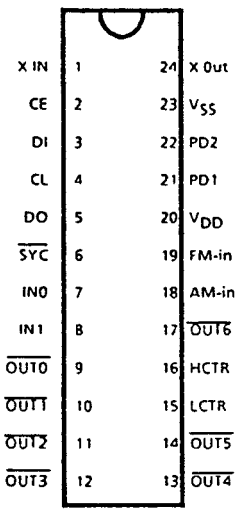
PIN ⑰ : Description of POWER CONTROL
* With cassette deck in operation (FF/REW, PLAY, REC, etc.)
When XL-MXL5's POWER SW is turned OFF, the POWER CONTROL will be switched to "L." When XL-MXL5's POWER CONTROL becomes "L," the cassette deck will be stopped without the primary relay being turned OFF, so "L" will be changed to "H," by which the primary relay will be switched OFF to switch the power source OFF. (Refer to XL-MXL5)

Description of Major LSI ICs

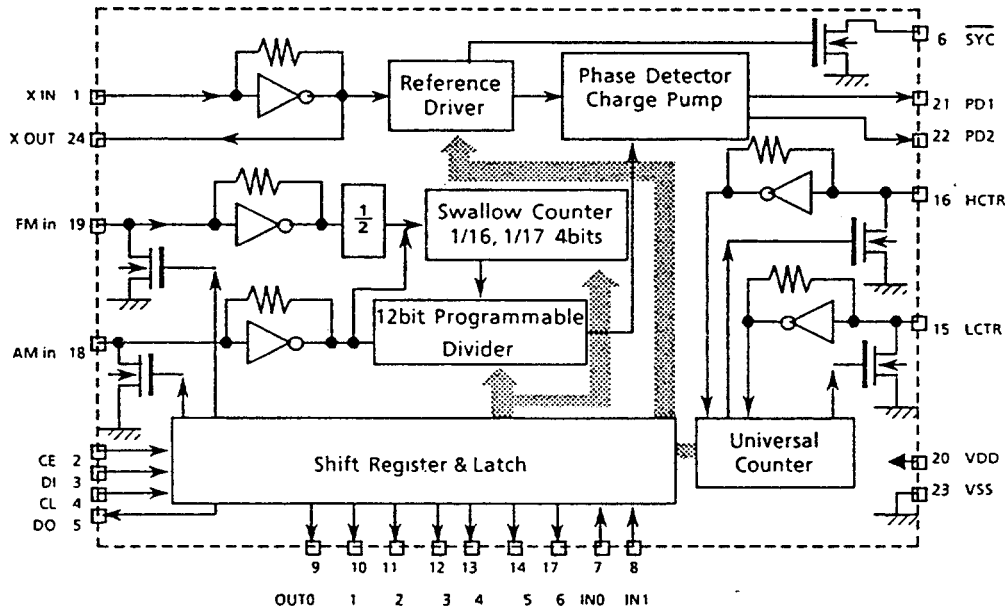
■ IC102 : LC7218 (PLL Synthesizer)

1. The main function descriptions
   (1) It makes the local oscillation frequency by the control data from IC201.
   (2) Decode the control signal and transmit the signal for receiving conditions.
   (3) For the best tuning, count the internal-frequency and transmit the data to IC201.

2. Terminal Layout



3. Block Diagram



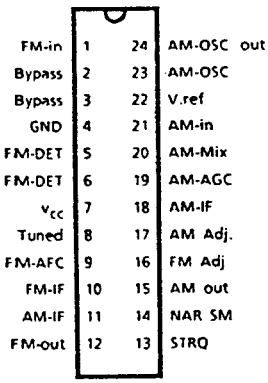
4. Pin Function Description

Pin No.	Symbol	Name	I/O	Functions and Operations
1,24	X in , X out	X in , X out	I/O	Crystal oscillator (7.2MHz).
2	CE	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.
3	DI	DI	I	Receive the control data from the controller (IC421).
4	CL	CL	I	This clock is used to synchronize data when transmitting the data of DI and DO.
5	DO	DO	O	Transmit the data from LC7218 to the controller which is synchronized with CL.
6	$\overline{SYC}$	$\overline{SYC}$	—	Not used.
7	IN0	Tuned in	I	Receive the tuned signal from IC104 (LA1266A).
8	IN1	Stop in	I	Not used.
9	OUT 0	POWER	O	Not used.
10	OUT 1	QSC	O	ON mode with " H " and OFF mode with " L ".
11	OUT2	MONO	O	It is "H" on FM-monaural, "L" on FM-Stereo.
12	OUT3	FM	O	It is "H" on FM mode.
13	OUT4	MW	O	It is "H" on MW mode.
14	OUT5	LW	O	It is "H" on LW mode.
15	LCTR	AM-IF	I	Universal counter input for AM-IF from IC104 (LA1266A).
16	HCTR	FM-IF	I	Universal counter input for FM-IF from IC104(LA1266A).
17	OUT6	IF REQ	O	Output the "IF-signal request" to IC104 when the pin-7 (tuned in) go to "H".
18	AM in	AM in	I	Input the local oscillator signal of AM.
19	FM in	FM in	I	Input the local oscillator signal of FM.
20	V_{DD}	V_{DD}	—	This is a terminal of power supply.
21	PD1	PD1	O	PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
22	PD2	PD2	O	Not used.
23	Vss	Vss	—	Ground terminal.

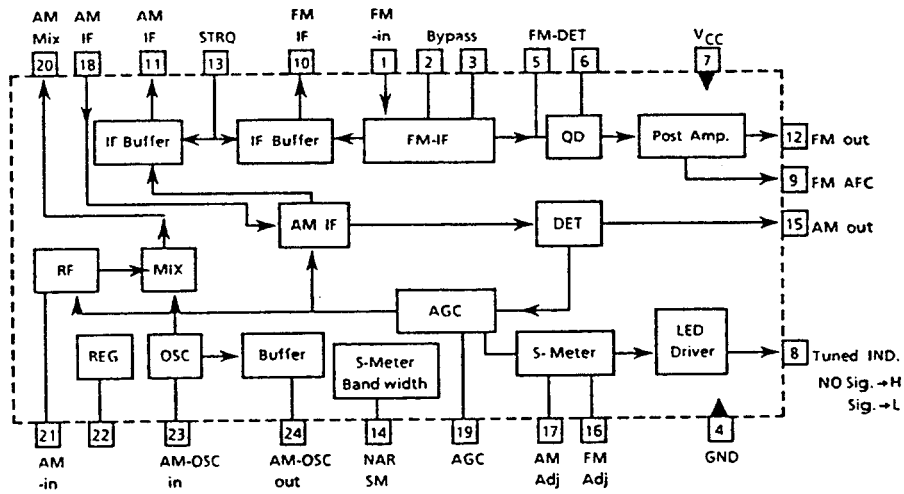
■ IC104 : LA1266A (FM AM IF AMP & detector)

1. The main function descriptions
   (1) Amplify and detect of FM intermodulation frequencies.
   (2) It has local oscillator and mixer for AM, and amplify the AM-IF signal.

2. Top View



3. Block Diagram



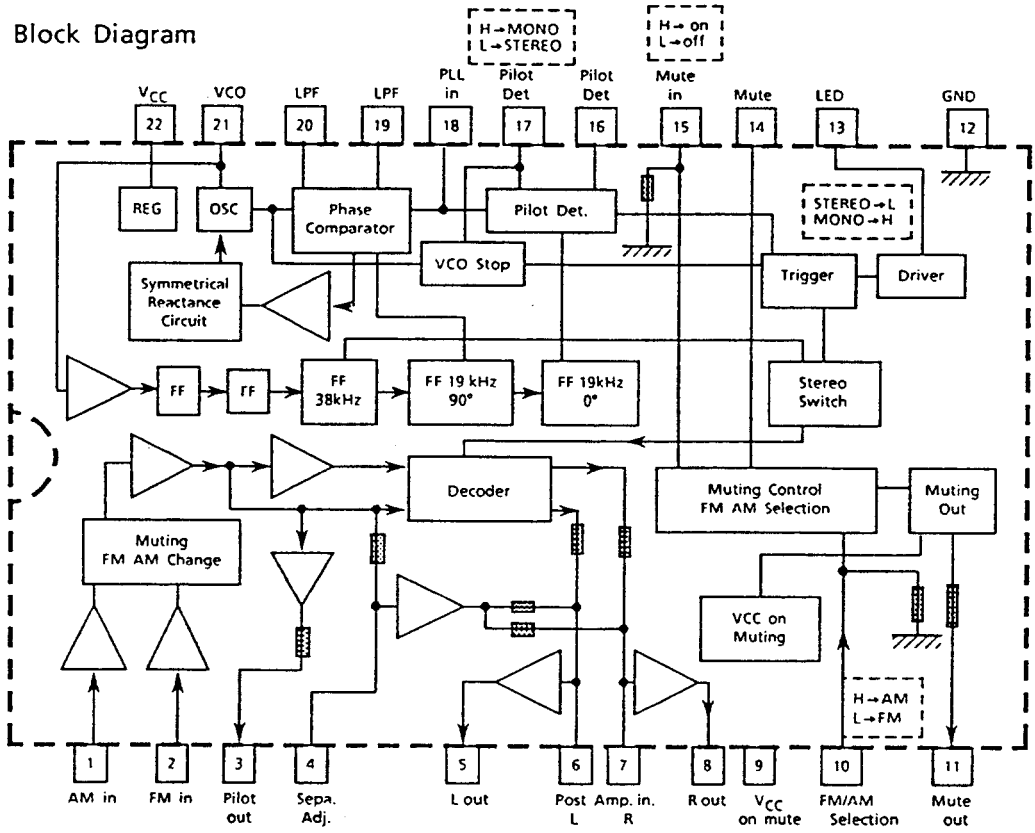
4. Pin Function Description

Pin No.	Symbol	I/O	Functions and Operations
1	FM in	I	This is an input terminal of FM IF Signal.
2 , 3	Bypass		Bypass of FM IF Amp.
4	GND		This is the device ground terminal.
5 , 6	FM DET		FM detect transformer.
7	V_{CC}		This is the power supply terminal.
8	Tuned		Not used.
9	FM AFC	O	This is an output terminal of voltage for FM - AFC.
10	FM IF out	O	When the signal of IF REQ of IC102(LC7218) applied to pin13, the signal of FM IF does output.
11	AM IF out	O	When the signal of IF REQ of IC102(LC7218) applied to pin13, the signal of AM IF does output.
12	FM out	O	FM detection output.
13	STRQ	I	The IF-signals come out from pin10 (FM-IF) or pin11 (AM-IF) while this terminal going to "High".
14	NAR SM		Control the Band-width of signal meter.
15	AM out	O	AM detection output.
16	FM Adj		For adjust the stop level (or mute level) of FM.
17	AM Adj		For adjust the stop level (or mute level) of AM.
18	AM-IF	I	Input of AM IF Signal.
19	AM-AGC	I	This is an AGC voltage Input terminal for AM.
20	AM-MIX	O	This is an output terminal for AM mixer.
21	AM-IN	I	This is an input terminal for AM RF Signal.
22	V.REF		
23	AM-OSC		This is a terminal of AM Local oscillation circuit.
24	AM-OSC out	O	AM Local Oscillation Signal output.

■ IC105 : LA3401(FM MPX Detector)

1. The main function descriptions
   (1) Detect the FM Multiplex Signal (Stereo signal).
   (2) When the FM Signal is Stereo Modulation , it will output the signal for indicator.
   (3) AM / FM Audio Amplifier.

2. Top View & Block Diagram



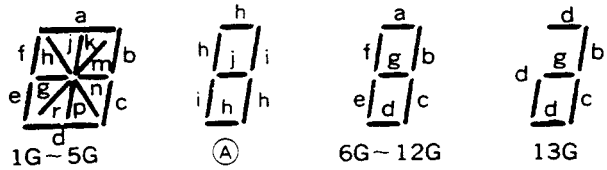
3. Pin Function Description

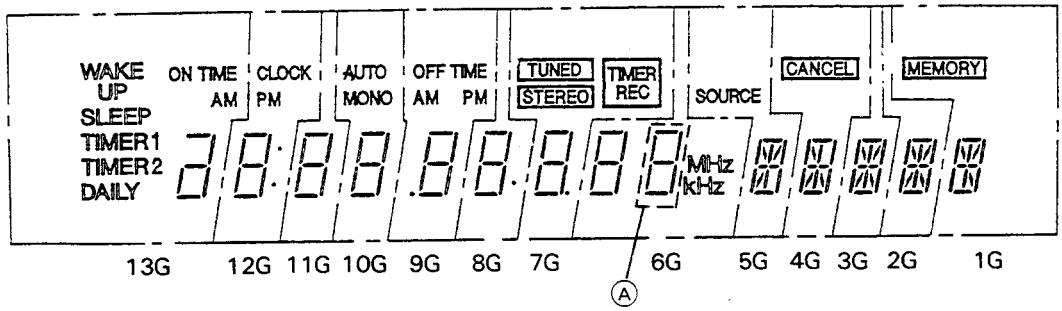
Pin No.	Symbol	H/L	I/O	Functions and Operations
1	AM in			This is an input terminal for AM detection signal.
2	FM in			This is an input terminal for FM detection signal.
3	Pilot out			Output of MPX pilot signal (Connected to Pin18).
4	Sepa. Adj.			Separation adjustment.
5	L. out		O	Left channel signal output.
6	RL		O	Reversal output of Pin5.
7	RR		O	Reversal output of Pin8.
8	R out		O	Right channel signal output
9	V_{CC} on mute			The muting time after power on is controlled by the connected capacitor.
10	$\overline{FM}$ / AM		I	Switch-over the $\overline{FM}$ / AM input. "H" : AM, "L" : FM
11	Mute out		O	Muting signal output.
12	GND			Ground terminal.
13	Stereo		O	Stereo indicator output. Stereo : "L", Mono : "H"
14	Mute			The muting time at switch-over the FM / AM is changed by the connected capacitor.
15	Mute in		I	Muting signal input. "H" : Mute on, "L" : Mute off.
16	LPF			Low pass filter of pilot detector.
17	LPF			While this terminal going "H", the VCO stop.
18	Pilot in			PLL input.
19	LPF			Loop filter of PLL.
20	LPF			Loop filter of PLL.
21	VCO			Voltage controlled oscillator terminal.
22	V_{CC}			Power supply.

Internal Connections for the FL Display Tube

■ FL201 : ELU0001-101

(1) Grid Division





(2) Terminal Connections

PIN CONNECTION

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
CONNECTION	F 1	F 1	NP	NC	13 G	S 1	S 2	13 G	S 3	S 4	12 G	12 G	S 5	11 G	S 6	10 G	S 7	9 G	9 G	S 8	S 9	8 G	S 10	7 G	S 11	6 G	S 12	NC	NC	NC

PIN NO.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
CONNECTION	6 G	NC	5 G	NC	4 G	4 G	NC	3 G	NC	2 G	NC	1 G	NC	NP	F 2	F 2

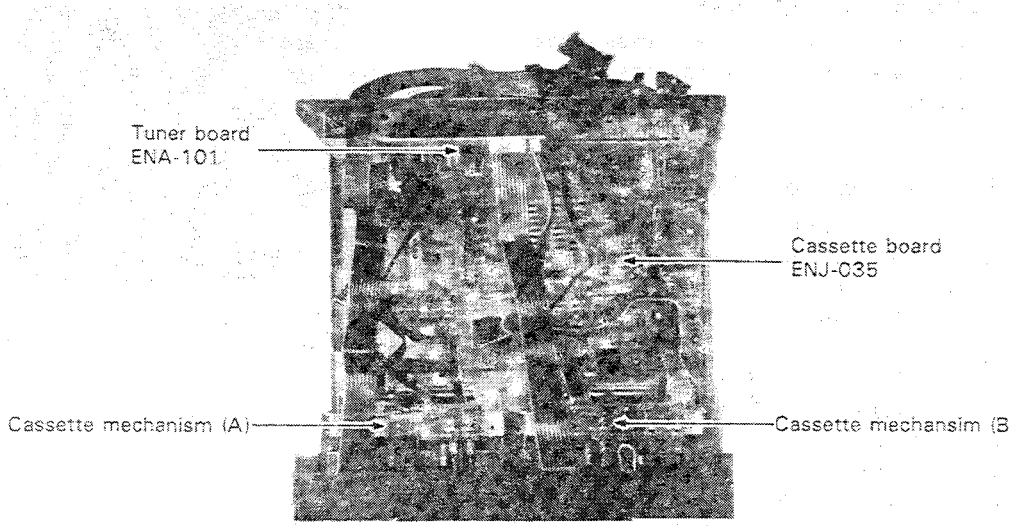
Notes F: Filament G: Grid P: Anode NP: No Pin NC: No Connection

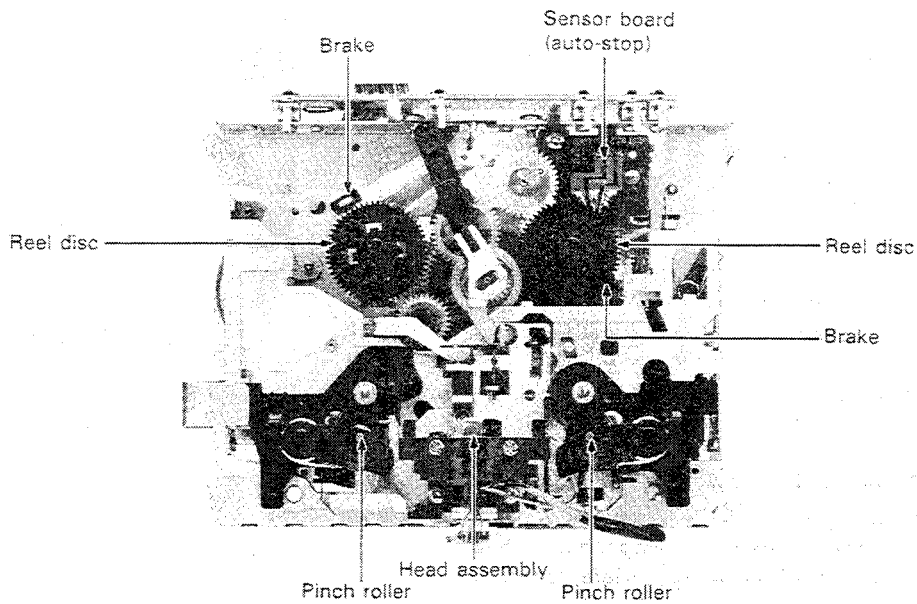
(3) Anode Connection Table

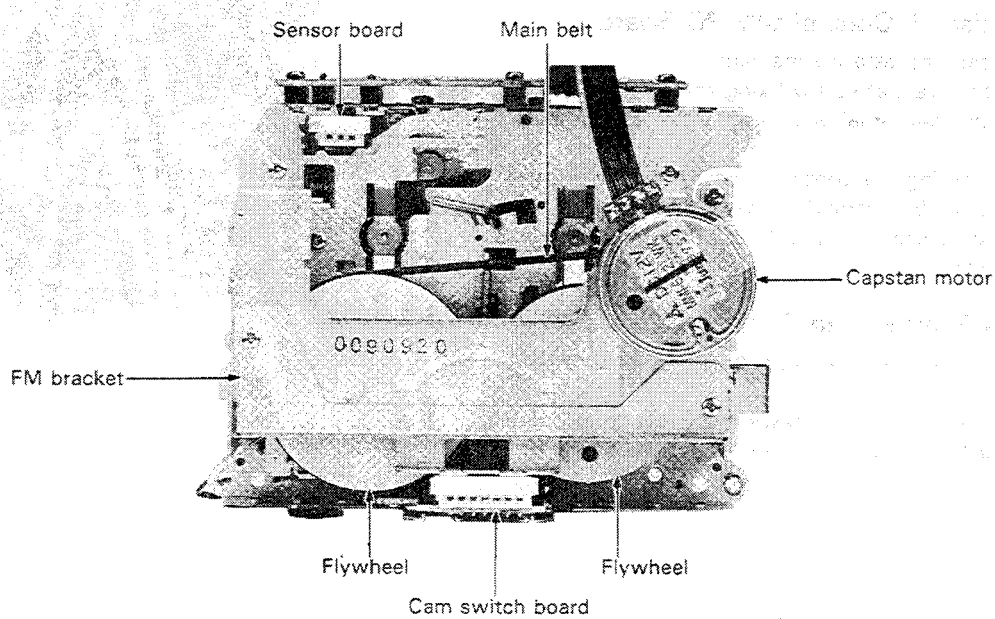
Inside Connections

	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
S1	d	d	d	d	d	d	d	d	d	d	d	d	d
S2		e	e	e	e	e	e	e	e	e	e	e	e
S3	c	c	c	c	c	c	c	c	c	c	c	c	c
S4	g							kHz	r	r	r	r	m
S5	b	DP (:)			DP (.)	DP (:)	DP (.)	MHz	k	n	n	n	n
S6	DAILY				AM		STEREO	i	j, p	j, p	j, p	j, p	j, p
S7	TIMER 2	g	g	g	g	g	g	g	g, m	g, m	g, m	g, m	g
S8	TIMER 1	f	f	f	f	f	f	f	f	f	f	f	f
S9	SLEEP	b	b	b	b	b	b	b	b	b	b	b	b
S10	WAKE UP	a	a	a	a	a	a	a	a	a	a	a	a
S11	AM	PM		MONO	PM		TUNED	j	h	h	h	h	h, k
S12	ON TIME	CLOCK		AUTO	OFF TIME		TIMER REC	h	SOURCE	CANCEL	k	k	MEMORY

Arrangements of principal Parts







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Disassembling Procedures

1. How to Remove the Top Cover

(1) Remove the two black screws from the backside, then remove the four black screws on both ends.
(2) Raise the top cover's rear part and remove the it to the upper rear direction.

2. How to Remove the Front Panel

(1) Remove the two black screws ① fixing the panel from the bottom, then the two black screws ② fixing the mechanism. (Refer to Fig. 2)
(2) Remove all connectors from the front panel.

3. How to Remove the Cassette Mechanism

(1) Remvoe the four blue screws ③ fixing the cassette mechanism. (Refer to Fig. 3)

Reference: The screw fixing the upper side is a double-thread screw for plastics.
The screw fixing the lower side is a tap tight screw for chassis.

Note: The cassette mechanism is grounded through the bottom cover, so when checking the operations with the bottom cover removed (especially when checking the signal system), be sure to ground the chassis by using an alligator clip or other suitable gadget. Also, since this cassette mechanism is designed for pack sensing, remember that it cannot be operated without any tape.

4. How to Remove the Cassette Holder

(1) Remove the gear oil damper (fixed with a double-thread screw)
(2) Remove the spring from the bracket.
(3) Press the holder and remove the switching lock.

5. How to Remove the Front SW PC Board

(1) Remove the front panel.
(2) Remove the four small screws ④ fixing the front SW board, then the three small screws ⑤ . (Refer to Fig. 3)

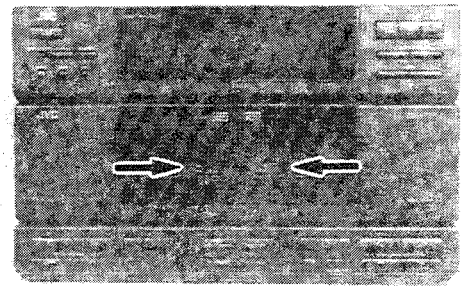
6. How to Remove the Mechanism A/ Mechanism B Control SW PC Board

(1) Remove the cassette mechansim.
(2) Remove the bracket screw fixing the cassette holder.
(3) Remove the two small screws fixing the control SW board.

Note: When refitting the front SW board on mechanism A/ mechanism B control SW board, be sure to confirm that their buttons and LEDs are fitted properly into their holes.

7. How to Remove the Tuner PC Board

(1) Remove the black screw fixing the rear panel's antenna terminal.
(2) Remove the four white screws fixing the tuner board.
(3) The tuner board can now be raised.



The cassette door, in open state, can be slide and disengaged in the arrow's direction. Remove the cassette door as when adjusting the head's angle. (Refer to Fig. 1)

Fig. 1

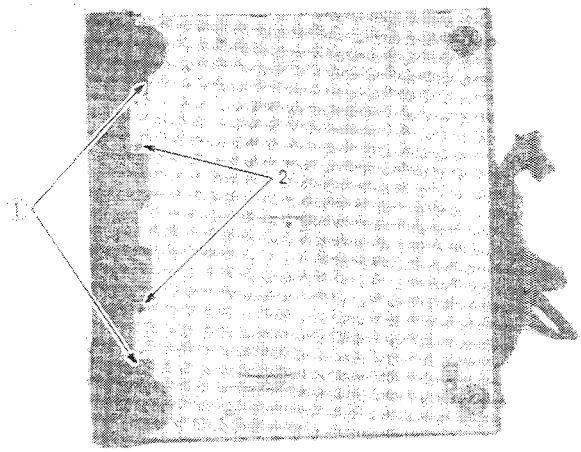


Fig. 2

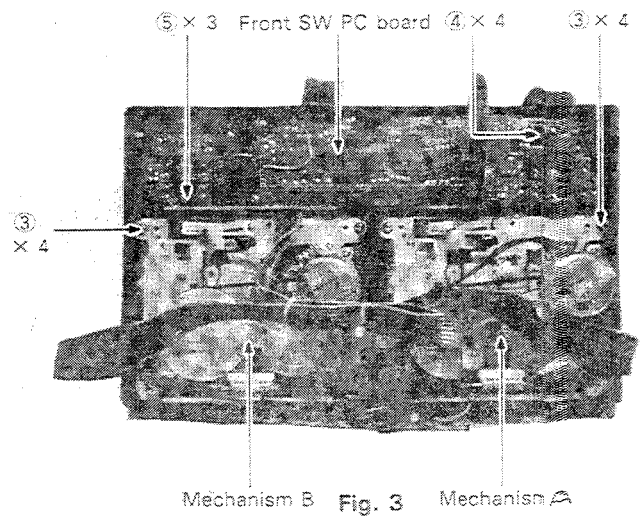


Fig. 3

8. How to Remove the Cassette Amp PC Board

(1) Remove the two black screws fixing the rear panel's underside, then disengage the rear panel.
(2) Remove the three white screws fixisng the cassette AMP board.
(3) The cassette amp board, together with the rear panel, can now be raised.

9. How to Remove the Cassette Mechanism Parts

■ Head Assembly

Remove the two screws ① fixing the head assembly. When removing only the head block, remove the two screws fitted from the head gap side. (The bonded part can be removed with ease by heating.)

When assembling:

1) Fit the head lever into the position shown in the diagram.
2) Adjust the head, then bond and lock the head assembly.

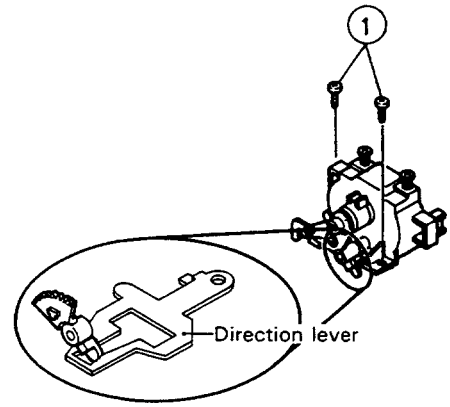


Fig. 4

■ Pinch Roller Arm Assembly (Same Procedures for Both Forward/Reverse Sides)

1) Remove the pawl Ⓐ fixing the pinch roller arm assembly.
2) Detach the pinch roller return spring (small outside spring) from the hook.

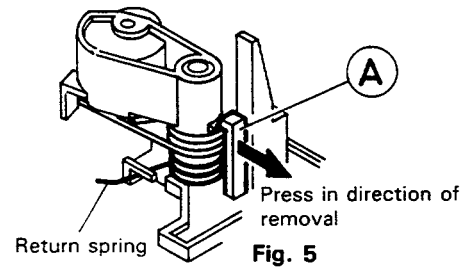


Fig. 5

■ Reel Disc Assembly

Detach the triangular pyramid-shaped reel disc stopper from the assembly's tip (Use a new stopper when reassembling.)

■ Disc Revolution (Auto Stop) Sensor

Remove the screw ② fixing the sensor board. Fit the Hall element by matching it to the sensor board.

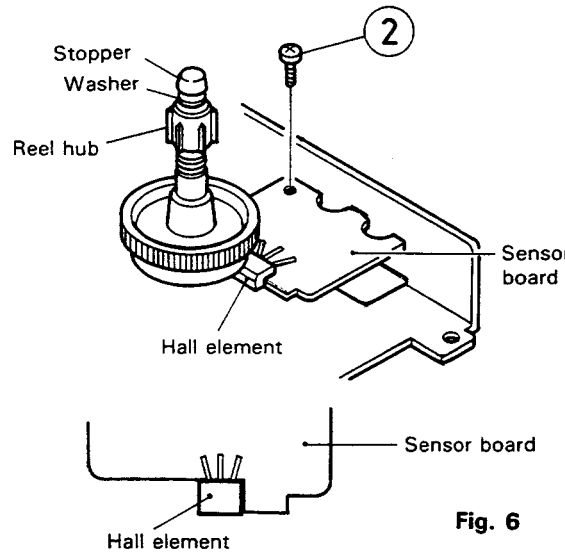


Fig. 6

■ FM Bracket and Flywheel

1. Remove the four screws ④ and ⑤ fixing the FM bracket.
2. Remove the FM bracket by sliding it to the left (Fig. 8)
3. The belt will be disengaged. Fit the belt by the method shown in Fig. 7. Next, detach the flywheel. (The washer can be removed in the direction of the pinch roller.)

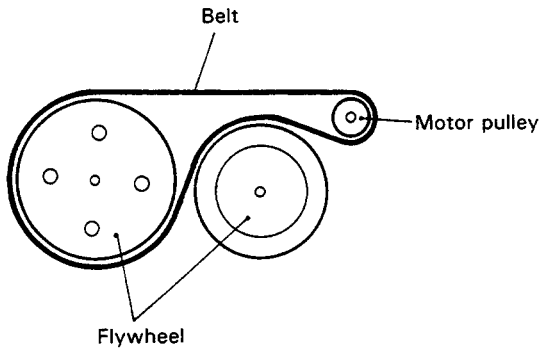


Fig. 7

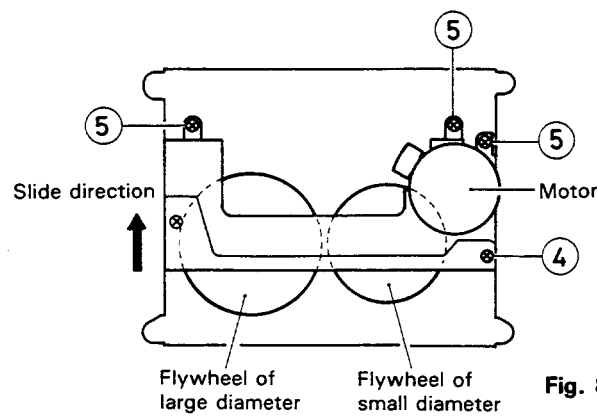


Fig. 8

■ **Reel Base Unit Assembly**

1. Remove the FM bracket, then detach the flywheel.
2. Remove the two screws ⑥ fixing the reel base unit assembly.
3. Remove the solders from the solenoid wires of the cam switch board.

Precautions When Assembling

Match the assembling places with places having the same symbols.

A and A′ B and B′	>	Match their grooves
C and C′ D and D′	>	Match the bosses of C′ and D′ at the periphery of the cam gear
E and E′		Match their grooves

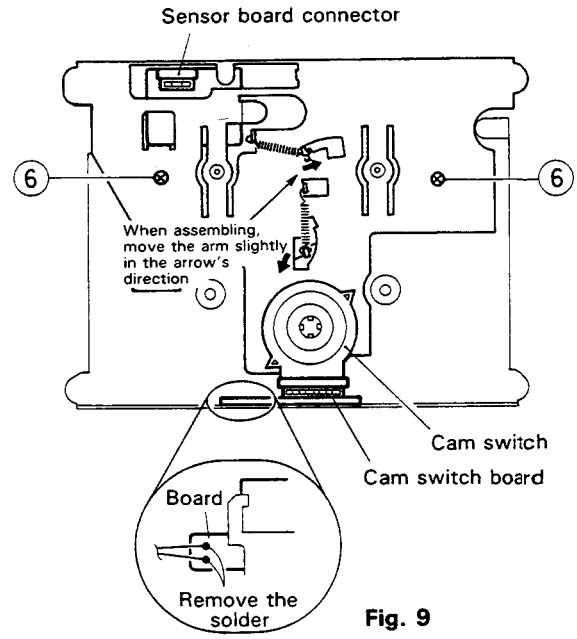


Fig. 9

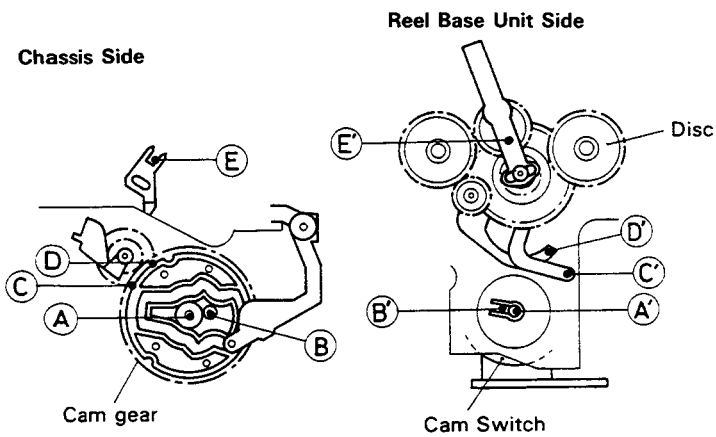


Fig. 10

■ **Select Cam Gear**

1. Remove the flywheel and reel base unit.
2. Remove the trigger lever's torsion spring.
3. Remove the trigger lever stopper Ⓒ .
4. Remove the select cam gear's lock washer. (Use a new lock washer when reassembling.)

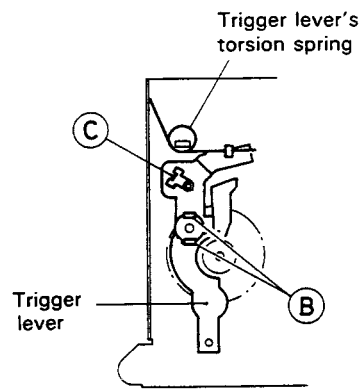


Fig. 11

Trouble Shooting

Before repairing this model, use the following characteristics for reference.

1. Description of CA-MX1BK/LBK System

In the CA-MX1BK/LBK system, the power is supplied to DR-MX1 (deck tuner) with a special-purpose system connector. Accordingly, depending on the trouble symptoms of the tuner unit and deck unit, it will be necessary to repair AX-MX1BK (CD AMP), so be sure to pass judgements in conformance with the symptoms after first grasping the system accurately.

2. Deep Relationship Exists Between System Microcomputer and Deck Microcomputer

The deck microcomputer receives RESET and INH control signals from the system microcomputer for mechanism initializing (stopping of both mechanisms). With this model, the time limit is set at about 4 sec and, in the event the operation is not consummated within the set time, this is sensed as an abnormality and the motor drive output switched OFF. This disposition is performed accurately since mechanisms A and B are respectively independent and mechanism B will be actuated if mechanism A was troubled, and conversely mechansim A will be actuated even if mechanism B was inoperative. Also, operations are resumed by the subsequent manipulation, so even if the system was not actuated by the first manipulation, it will be actuated by the second manipulation.

3. Deck Mechanism is Double Reverse Mechanism for Mechanism A (Playback Only) and Mechanism B (Recording/Playback)

The pack switch and cam switch are for input into the mechanism microcomputer, and the rotary sensor (Hall IC) output for input into the system microcomputer.

4. Description of Power Source Circuit

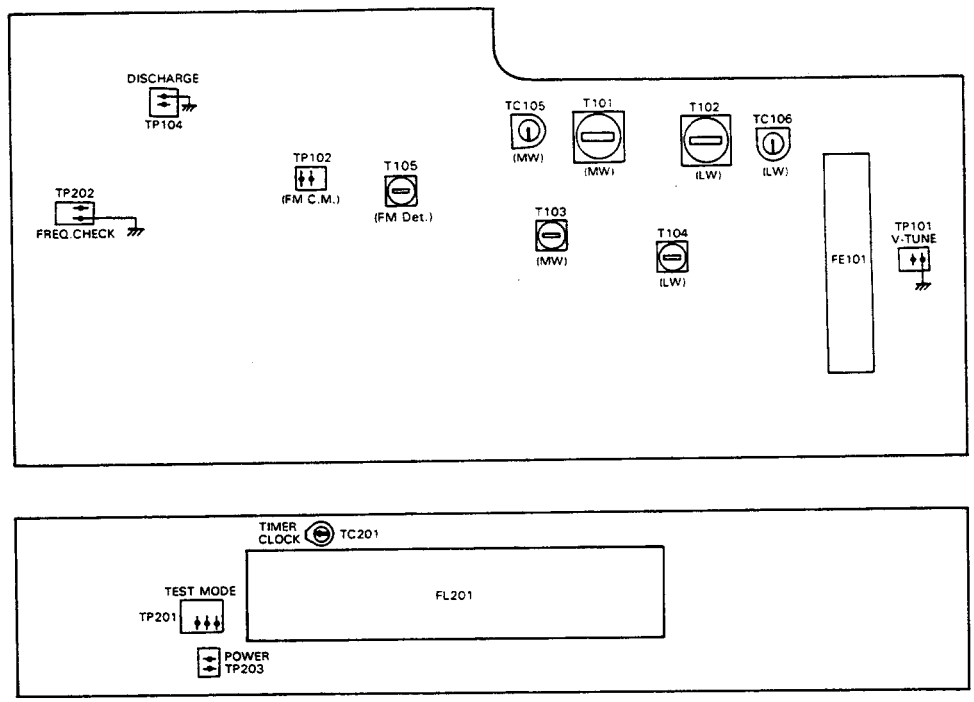
The basic power sources are all built into AX-MX1BK (CD AMP). The small transformer (T001) supplies power (+5 V) to the system microcomputer, power (+5 V) to the DR-MX1BK tuner unit's microcomputer, power (−30 V) to the FL display unit, power (AC 4.5 V) to the heater and power for driving the AC relay. Meanwhile, the large transformer (PT001) supplies power to all CD player units, power (+12 V) to the tuner unit's other parts and power to parts other than the AX-MX1BK (CD AMP) system's microcomputer.

5. Description of System Connectors A and B

The system connectors A and B connect the deck unit and tuner unit with the power supply, signals, microcomputer RESET and INH control signals and computer links. Therefore, be sure to first connect the system connectors A and B to AX-MX1BK, then connect the power cord to an AC receptacle. This is because the RESET and INH control signals of the deck microcomputer and tuner microcomputer are controlled by AX-MX1BK's system microcomputer. Remember that if the system connectors A and B are connected when AX-MX1BK's power cord remains connected to an AC receptacle, this will not only fail to actuate the deck unit and tuner unit but may also damage the power source circuits and microcomputers.

Adjustment Procedures (Tuner Section)

* When adjusting the core, be sure to use an adjustment rod having no metal parts.
* When making adjustments, connect the CD AMP (AX-MX1). When doing so, be sure to disengage the AC plug, next connect the system connectors A and B, then re-engage the AC plug.



FM/AM Tuner Alignment Procedures

■ **FM oscillator**

(1) Set the frequency display to "108.0MHz".
(2) Confirm the FM inter-station noise is received.
(3) Confirm the voltage of test point "TP101" becomes 8.0V±2.0V.
(4) Set the frequency display to "87.5MHz" and confirm the voltage of test point "TP101" becomes 1.6V±1.0V.

■ **FM detector coil: T105**

(1) Connect a digital voltmeter to test point "TP102", and receive to "100.1MHz" signal with SSG ATT 70dB.
(2) Adjust T105 so that the digital voltmeter reads 0±1.5mV.

Note: [ ]: for the U.S.A.
( ): Australia, the U.K. and continental Europe
{ }: Other countries Channel space 9kHz
⌈ ⌋: Other countries Channel space 10kHz

■ **MW oscillator: T103**

(1) Set the frequency display to [530kHz] (522kHz) {531kHz} ⌈530kHz⌋ and confirm the voltage of test point TP101 becomes 0.9V±0.2V.
(2) Set the frequency display to [1710kHz] (1629kHz) {1602kHz} ⌈1600kHz⌋ and confirm the voltage of test point TP101 becomes [8.0V±0.8V] (7.5V±0.8V) {7.2V±0.7V} ⌈7.2±0.7V⌋.
(3) If its voltage exceeds the allowance, adjust T103 to obtain the voltage.

■ **MW antenna coil: T101**

(1) Connect a loop antenna to the "AM Loop" terminal on the rear panel.
(2) Adjust T101 to obtain the best receiving sensitivity on 600kHz or 603kHz.

■ **MW antenna trimmer: TC105**

(1) Adjmust TC105 to obtain the best receiving sensitivity on 1400kHz or 1404kHz.

Note : [ ] for Italy

■ **LW Oscillator : T104**

(1) Set the frequency display to 144kHz and adjust T104 so that the voltage of TP101 becomes 0.8V±0.4V [0.8V±0.1V].
(2) Set the frequency display to 353kHz [290kHz] and confirm the voltage of test point TP101 becomes 7.7V±0.6V [5.7V±0.5V].

■ **LW antenna coil : T102**

(1) Connect a loop antenna to the "AM Loop" terminal on the rear panel.
(2) Adjust T102 to obtain the best receiving sensitivity on 164kHz [164kHz].

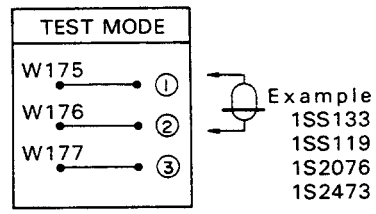
■ **MW antenna trimmer : TC106**

(1) Adjust TC106 to obtain the best receiving sensitivity on 353kHz [245kHz].

■ **Timer clock frequency adjustment : TC201**

(1) Switch OFF the CD AMP (AX-MX1BK)'s power source, then pull out the AC plug.
(2) Shortcircuit TP201's terminals ② and ③ with the diode as shown in the accompanying diagram, then insert the AC plug into the receptable to switch the power ON.
(3) Confirm that the tuner's FL display is off, then remove the diode and connect the frequency counter to TP202 (FREQ CHECK).
(4) Adjust TC201 to a frequency of 34,952.5 Hz±0.1Hz.

TP201



■ **POWER**

This set is not provided with a power switch, so switch the power source ON/OFF by shortcircuiting TP203.

■ **DISCHARGE**

When discharging the backup, shortcircuit the two terminals of TP104.

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Adjustment Procedures (Cassette Deck)

■ Adjustment of Cassette Deck Assembly

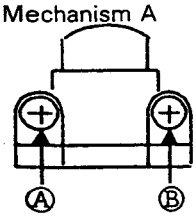
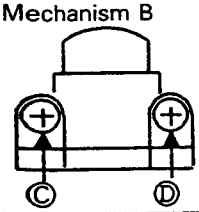
1. Measuring Instruments Necessary for Adjustment

(1) Low-frequency oscillator (providing an output of 0 dB at 600 Ω final terminal at an oscillation frequency of 50 ~ 20 kHz).
(2) Attenuator (impedance 600 Ω)
(3) Electronic potentiometer.
(4) 600 Ω resistor (for attenuator matching).
(5) Distortion meter (with built-in band pass filter).
(6) Torque gauge (cassette) CTG-N (for adjustment of structural relations).
(7) C-120 tape (for confirmation of running condition) (for adjustment of structural relations).
(8) Standard tapes (use our specified standard tapes):
VTT-703L (for head angle adjustment)
TMT6247 (for music scanning)
TMT6237 (for music scanning)
TS-12(SF), TS-11 (METAL), TS-10 (chromium)
(standard recording tapes)
VTT-712 (tape speed, wow/flutter)
VTT-724 (standard level)

Note:
When making adjustments, connect the CD AMP (AX-MX1BK). In this case, first disconnect the AC plug, next connect the system connectors A and B, then insert the AC plug.

2. Adjustment and Repair of Structural Relations

Before adjusting electric circuits, adjust and confirm the structural relations.

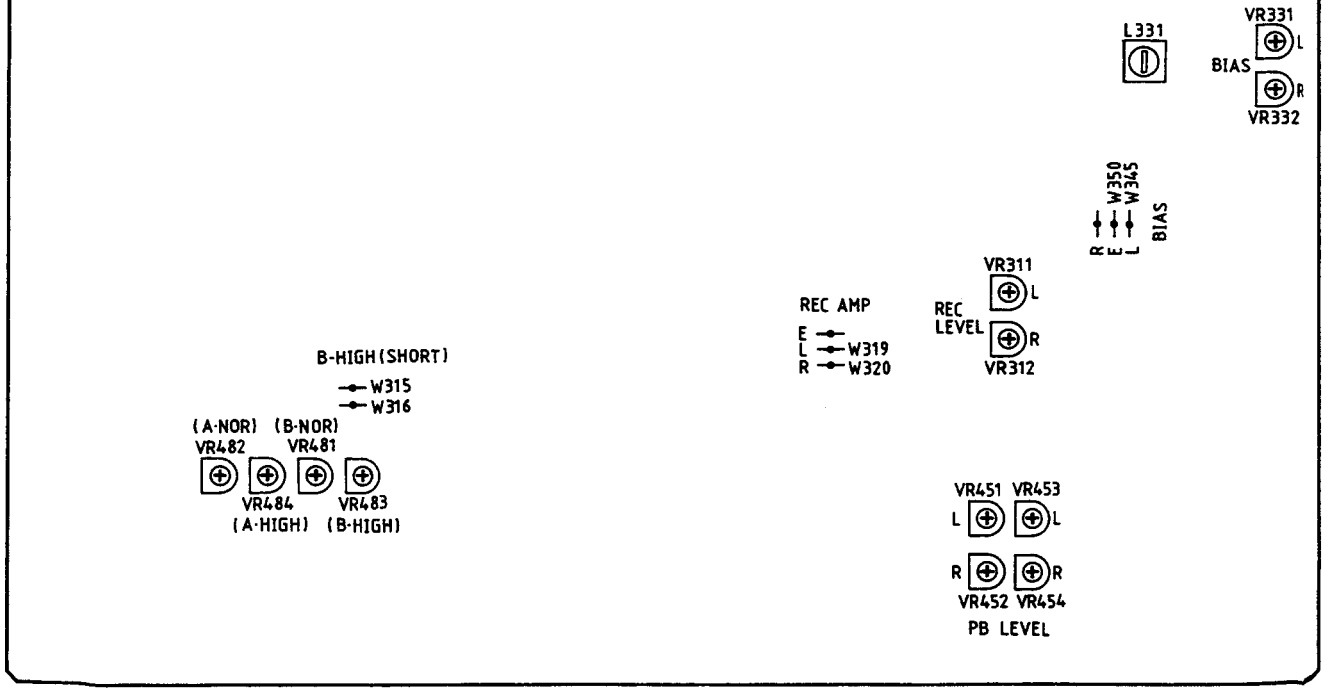
Item	Adjustment Method	Adjustment Place	Standard Value	Remarks
Adjustment of recording/ playback head's angle	1. Connect the output terminal of DAT REC to the voltmeter. 2. Play back VTT-703L			1. Change the head whenever its prescribed characteristics cannot be obtained due to the head's wearout, wire severance or excessive magnetism, then adjust its angle after the replacement, also adjust the playback level, recording bypass current, etc.
Mechanism A 	3. Adjust screw Ⓐ so that the voltmeter's output will become maximum at PLAY (►).	Screw Ⓐ	Maximum	
	4. Adjust screw Ⓑ so that the voltmeter's output will become maximum at PLAY (►).	Screw Ⓑ	Maximum	2. Change the head whenever the left and right output level difference exceeds 3 ~ 4 dB; otherwise, claims may be lodged against the system.
Mechanism B 	5. Adjust screw Ⓒ so that the voltmeter's output will become maximum at PLAY (►).	Screw Ⓒ	Maximum	
	6. Adjust screw Ⓓ so that the voltmeter's output will become maximum, at PLAY (►).	Screw Ⓒ	Maximum	
	7. To prevent screw loosening after the adjustment, attach thread locks to the screws Ⓐ Ⓑ Ⓒ and Ⓓ.			
Playback torque	Use the torque measurement cassette CTG-N and measure the torque in playback mode.		20 ~ 65 g-cm	If a standard torque cannot be obtained, clean the takeup disc assembly or change it.
Fast-feed torque	Measure the turque in the same manner as above in fast-feed mode.		Over 80 g-cm	If the standard torque cannot be obtained, 1. Clean the parts around the capstan belt, motor pulley and flywheel. 2. Change the belt, idler and other faulty parts.
Rewinding torque	Measure the torque in the same manner as above in rewinding mode.		Over 80 g-cm	If the standard torque cannot be obtained, clean the parts around the capstan belt, motor pulley, flyweel and supply reel disc.
Wow/flutter	Play back VTT-712, connect the wow/flutter meter to this model's DAT REC terminal, and confirm that it is within a value of 0.15% (WRMS).			Even if the measured value is within the prescribed value, claims may be lodged against the system if the fluctuation exceeds 0.1%, servicing will be necessary.

Adjustment of Electric Circuits

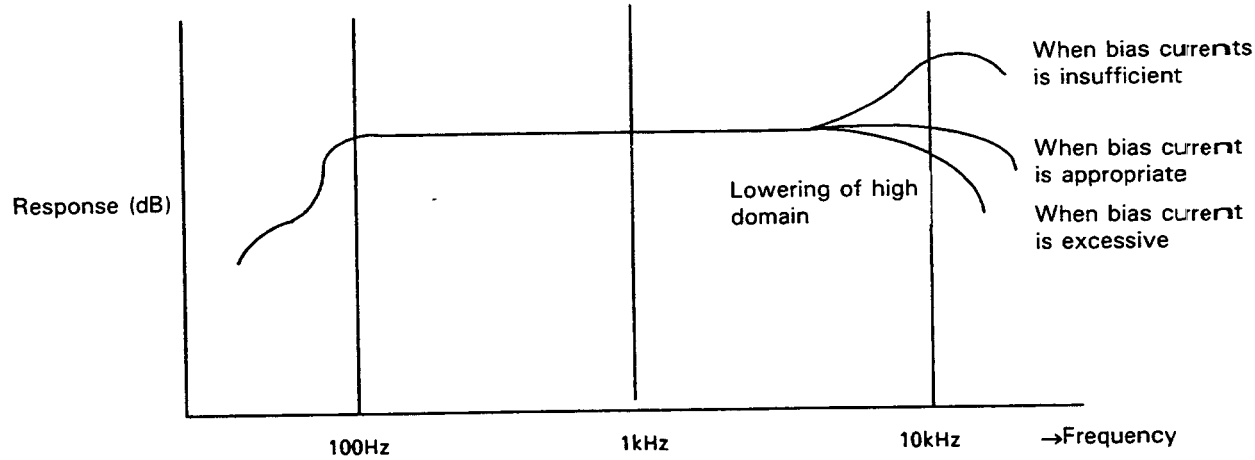
- Perform the following adjustments after adjusting the head's angle.
- In principle, never perform adjustments by other than prescribed procedures.
- Perform these adjustments with the NR switch turned OFF.

Item	Adjustment Method	Adjustment Place	Standard Value	Remarks
Motor speed	1. Play back VTT-712, switch the function to tape, then connect the frequency counter to the DAT REC terminal.	Motor drive board's semi-stationary resistor		In case of a measuring instrument incorporating a frequency counter in the wow/flutter meter, simply connecting to its INPUT will be sufficient.
	2. Constant-speed adjustment (be sure to perform this first of all). Play back mechanism A (mechanism B), then turn the cassette switch board's semistationary resistor VR482 (VR481) and adjust to 3,000 Hz.	VR482 (mecha. A) VR481 (mecha. B)	3000 Hz	
	3. High-speed adjustment Play back mechanism B, then short-circuit the main APM board's W315 and W316, by which mechanism B will be give a high speed. Next, turn the semistationary resistor VR483 and adjust to 4,800 Hz.	VR484 (mecha. A) VR483 (mecha. B)	4800 Hz	For high-speed adjustment of mechanism A, mount the recording tape in mechanism B and adjust VR484 in high-speed dubbing mode.

Cassette AMP Board



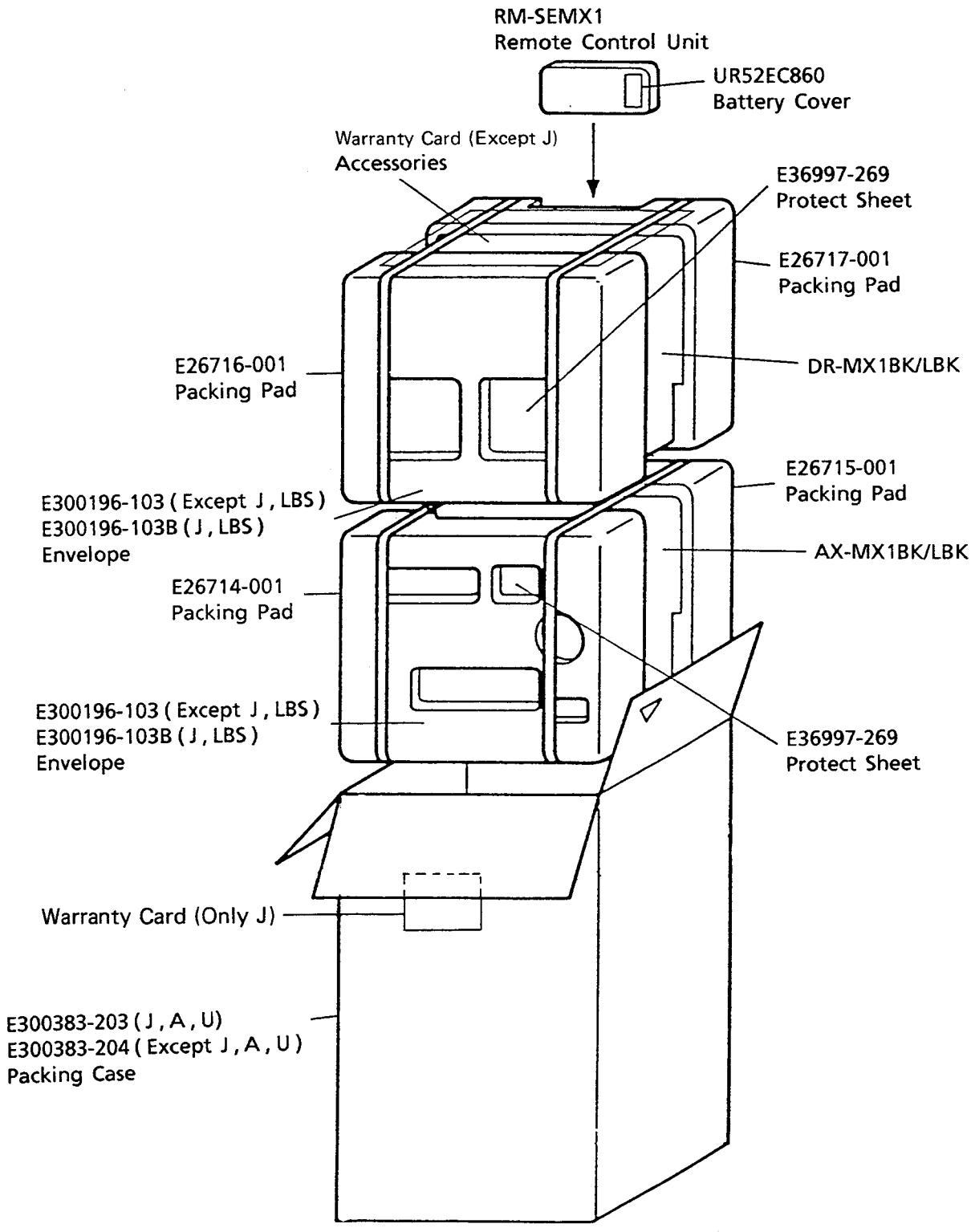
Item	Adjustment Method	Adjustment Place	Standard Value	Remarks
1 Playback level	Play back VTT-724 (1 kHz) and adjust so that the outputs of W319(L) and W320(R) are −5.5 dBs.	A VR453(L) VR454(R) B VR451(L) VR452(R)	−5.5 dBs	The playback level will be changed when the head is replaced, so adjust to the proper state. In this case, fonfirm that the electronic voltmeter's impedance is over 100 kΩ
2 Recording AMP gain	Input the AUX terminal with −8.2 dBs (1 kHz) signals, switch the function to AUX and mechanism B to recording mode. Confirm that the outputs of W319(L) and W320(R) are −5.5 dBs.		−5.5 dBs ±1 dB	
3 Recording bias frequency	Connect the frequency counter between W345(L) and W350(E) of bias T.P., then record with the metal tape.	L331	105 kHz +2 k, −7 kHz	
4 Recording frequency characteristics	With the NR switch turned OFF, record 1 kHz with an input of −28.2 dBs from AUX, then record 100 Hz/110 kHz. Adjust VR331 and VR332 so that, when this is played back, the difference of the 100 Hz/10 kHz output with respect to the 1 kHz output will satisfy the standard value. (Basically, adjust so that the 1 kHz and 10 kHz outputs will be flat.)	VR331(L) VR332(R)	0±3 dB at time of 100 Hz and 0±2 dB at time of 10 kHz, with 1 kHz as the standard	1) In principle, the cassette deck's recording and playback frequency characteristics are adjusted by bias adjustment. This is because the reliance of the frequency characteristics on the bias current is much greater than in the case of an open reel. 2) Unless the bias current is adjusted properly, the recording characteristic will be as shown in the accompanying diagram. 3) Perform the adjustment with the chromium tape, and confirm in connection with the normal tape and metal tape that they lie within the adjusted range.



Note: After adjusting the recording level (item 4), conform the recording/playback frequency characteristics with the NR switch turned ON. If 1 kHz/10 kHz exceeds 0±4 dB, then perform fine adjustment.

Item	Adjustment Method	Adjustment Place	Standard Value	Remarks
5 Recording level	1) Impress an input of 1 kHz (−8.2 dBs) on the AUX terminal and record with the chromium tape. 2) Adjust the recording signal current so that the outputs of W319(L) and W320(R) will be −5 dBs when this is played back.	VR311(L) VR312(R)	−5 dBs +1 dB, −0.5 dB	Perform the adjustment with the chromium tape, then confirm that the level difference between the normal tape and metal tape is within 1.5 dB, and that the left and right level difference is within 1.0 dB.
6 Confirmation of recording/ playback distortion	1) Record the AUX input's 1 kHz (−8.2 dBs). 2) Check the output when this is played back with a distortion meter and confirm that the value satisfies the prescribed value.		Normal tape Under 3% Chromium tape Under 3% Metal tape Under 3%	Perform after adjusting the recording frequency characteristics and recording level.
7 Confirmation of recording/ playback S/N ratio	1) Record the AUX input's 1 kHz (−8.2 dBs) signals, sample the input during the recording and perform mute recording. (Use the REC MUTE button.) 2) Play back this recording, measure the ratio between 0 dB recording output and mute recording output with the electronic voltmeter, and confirm that the ratio satisfies the prescribed value.		Normal tape Over 45 dB Chromium tape Over 45 dB Metal tape Over 45 dB	
8 Confirmation of erasing ratio	1) Record the AUX input's 1 kHz (0 dBs) signals. 2) Rewind and erase a part of the recording. 3) Measure the output ratio of the recorded portion and erased portion with an electronic voltmeter.		Over 55 dB	For this measurement, connect a 1 kHz BPF (bandpass filter) between the deck and the electronic voltmeter. Confirm with the metal tape.
9 Confirmation of auto-stop	Confirm there is no auto-stop near the end of REW. (Provide a gap of within 0.5±0.3 mm between the magnet and the Hall IC.)			
10 Confirmation of music scanning	1. Use TMT-6247 and conform that tune selection is performed properly at time of ending of FF SCAN winding and at time of starting of REW SCAN winding. 2. Also confirm that TMT-6237 does not perform music selection.			

■ Packing Materials and Part Numbers



Specifications

CD / Amplifier Component		
	Dimensions	10-7/8x6-3/4x12-3/8 inches (275x170x314 mm)
	Weight	15.0lbs (6.8kg)
Amplifier	Output Power	Main (SPEAKERS A): **30 watts per channel, min. RMS, both channels driven into 8 ohms, from 20Hz to 20kHz, with no more than 0.9% total harmonic distortion.** Subwoofer (SPEAKERS B): 20 watts per channel, into 3 ohms, at 80Hz, with 0.9% total harmonic distortion.
	Total Harmonic Distortion at Half-Rated Power	0.3%
	Input Sensitivity/ Impedance (1kHz) VIDEO/DAT, AUX	300mV/40k ohms
	SEA Center Frequencies	63, 160, 400, 1k, 2.5k, 6.3k, 16kHz
	SEA Control Range	± 10dB
Compact Disc Player	Dynamic Range (1kHz)	90dB
	Signal-to-Noise Ratio	100dB
	Frequency Response	5Hz-20kHz
	Wow and Flutter	Unmeasurable
Tape Deck / Tuner Component		
	Dimensions	10-7/8x6-3/4x10-3/4 inches (275x170x273 mm)
	Weight	7.3 lbs (3.3 kg)
Tape Deck	Frequency Response	Metal : 30-17,000Hz CrO_2 : 30-16,000Hz Normal: 30-15,000Hz
	Wow and Flutter	0.08% (WRMS)
FM Tuner	Usable Sensitivity	0.95μV/75 ohms (10.8dBf)
	Signal-to-Noise Ratio (IHF-A Weighted)	MONO (at 85dBf) 80dB STEREO (at 85dB) 73dB
General		
	Power Requirements	AC120V~, 60 Hz
	Power Consumption	200 watts

Design and specifications subject to change without notice.

gEtTing sTarted

Features

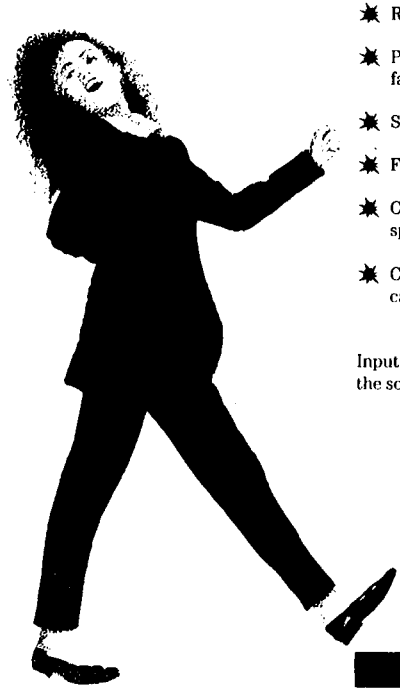
The CA-MX1BK produces a full, powerful bass sound.

- With JVC's newly-developed forced air cooling system, delivering 30 watts per channel (Full-Range speakers) and 20 watts per channel (Subwoofers), and the labyrinth port system speakers, the CA-MX1BK can produce the same high-quality bass sound as a large stereo system.

It has a variety of functions, which are equivalent to those of large, expensive stereo systems.

- Remote control of computerized 7-band SEA graphic equalizer.
- Programmable timers for setting recording, wake-up music, and fall-asleep music.
- Storage of 40 radio stations (FM and AM) in memory.
- Fade-out of last track during direct CD-to-tape recording.
- CD tracks can be recorded on both sides of a cassette tape without splitting songs at the end of a side.
- CD tracks can be played back or recorded on both sides of a cassette tape in any order.

Input terminals for connecting a Digital Audio Tape (DAT) Deck, and the sound portion of Video Cassette Recorder (VCR).



http://www.ManualsCenter.com

Introduction

Thank you for purchasing this JVC CA-MX1BK Compact Compo. We hope it will be a valued addition to your home, giving you years of enjoyment.

Be sure to read this instruction manual carefully before operating your new stereo system. Here you will find all the information you need to set up and use the system.

For questions that cannot be answered in this manual, please contact your dealer.

About this Manual

This instruction manual will help you with the following:

- Connecting the components of the system, installing the antennas, and connecting other components (such as a VCR or DAT deck) to the system.
- Learning the operations of the components of the system (Amplifier, CD Player, Tape Deck, Tuner, and the Remote Controller).
- Learning additional functions of the system, such as using the timers, using the SEA graphic equalizer, presetting broadcast stations in memory, and using the various recording capabilities.
- Trouble-shooting, if a problem should occur.

Connecting the System Components

Connection Notes

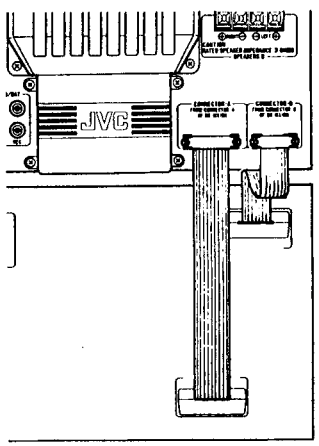
◆ Before you plug in the system, you must make all the necessary connections.

If you plug the power cord into an outlet without connecting the two stereo components, the "POWER STANDBY" light will blink. You will be unable to operate the system without making these connections.

Connecting the Two Stereo Components

◆ **Connect the CD/Amplifier component and the Tape Deck/Tuner component.**

Connect the two ribbon cables (CONNECTOR A and B) from the Tape Deck/Tuner component to the CD/Amplifier component.



◆ If the system does not work well or needs repairing, please take both the CD/Amplifier and Tape Deck/Tuner components with you to the nearest agent.

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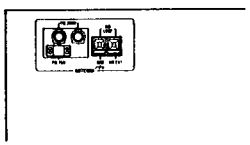
Connecting an FM Antenna

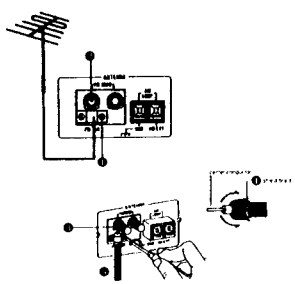


To receive FM radio broadcasts, you will should connect an FM antenna to the Tape Deck/Tuner component.

FM antennas use two types of cable connections: 75-ohm cables have a round coaxial connection, 300-ohm cables have a flat connection.

Connect your FM antenna as follows:

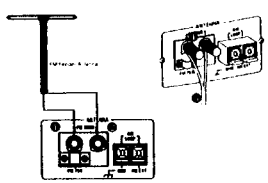
75-Ohm Antenna Cable



1. **Loosen the screws holding the bracket to the rear panel of the Tape Deck/Tuner component.**
2. **Loosen the cap of the 300/75-ohm terminal on the rear panel of the Tape Deck/Tuner components.**
3. **Insert the round antenna cable through the bracket from below.**
4. **Make sure the shield braid on the cable contacts the bracket, and the center conductor of the cable contacts the 300/75-ohm terminal.**
5. **Tighten the bracket screws and the cap on the 300/75-ohm terminal.**

Note: Make sure the antenna conductors do not touch any other terminals on the system. This could cause poor reception.

300-Ohm Antenna Cable



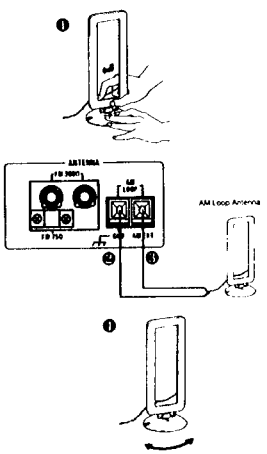
1. **Loosen the cap on the 300/75-ohm terminal on the rear panel of the CD/Amplifier component.**
2. **Loosen the cap on the 300-ohm terminal on the rear panel of the CD/Amplifier components.**
3. **Connect the two conductors of the antenna cable to the 300-75-ohm terminal and the 300-ohm terminal.**
4. **Tighten the caps on both terminals.**

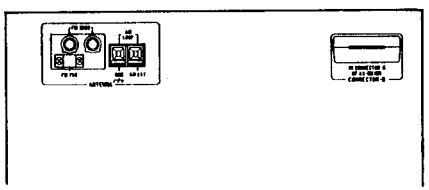
Note: Make sure the antenna conductors do not touch any other terminals on the system. This could cause poor reception.

Connecting an AM Antenna

To receive AM radio broadcasts, you will have to connect an AM antenna to the Tape Deck/Tuner component.

AM Loop Antenna

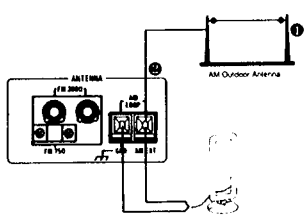




An AM loop antenna is included with your system. Connect this antenna as follows:

1. **Fasten the AM loop antenna to the antenna base.**
2. **Connect one AM antenna wire to one of the AM LOOP terminals at the rear of the Tape Deck/Tuner component.**
3. **Connect the remaining AM antenna wire to the other AM LOOP terminal.**
4. **Adjust the loop antenna as needed to get the best reception.**

AM Outdoor Antenna



If your AM broadcast reception is unsatisfactory, you should connect an AM outdoor antenna in addition to the loop antenna.

Important!! The AM loop antenna must be installed to receive AM broadcasts. Do not disconnect the loop antenna when installing an outdoor antenna.

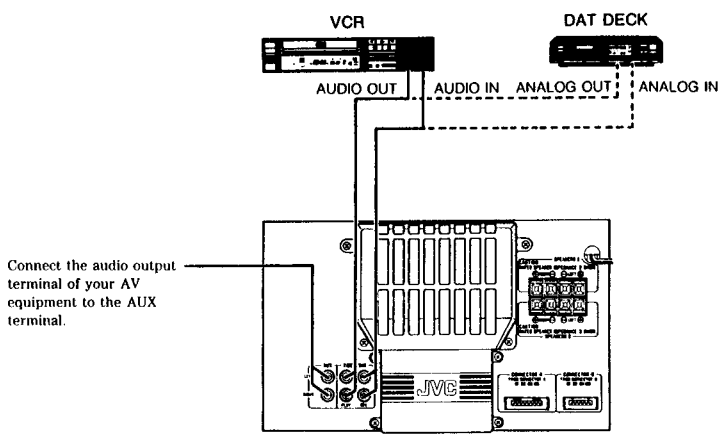
1. **Install a single vinyl-covered antenna wire outdoors. The antenna wire should be about 16 to 40 feet (5 to 12 meters) long.**
2. **Connect one end of the antenna to the AM loop terminal marked AM EXT.**

Note: Except for the connection, make sure no uninsulated antenna wire touches the rear panel of the CA-MX1BK. Otherwise, you might not receive AM broadcasts.

Connecting Other Components

The CA-MX1BK can also be connected to a Video Cassette Recorder (VCR), and a Digital Audio Tape (DAT) Deck.

Attach these components as shown below.



AC power connection

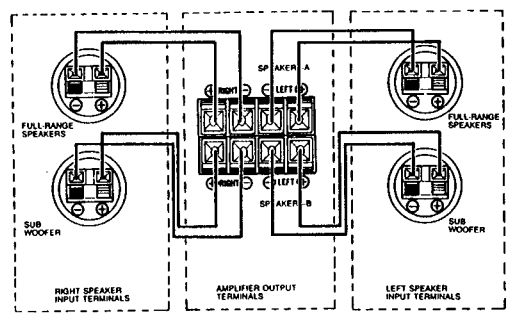
Caution: To prevent electric shock, turn all stereo components off before you install or remove power cords.

Important! Before you plug the power cord into an outlet, make sure all stereo components are connected correctly.

Plug the power cord on the back of the receiver into a 120 volt, 60 Hz AC household electrical outlet.

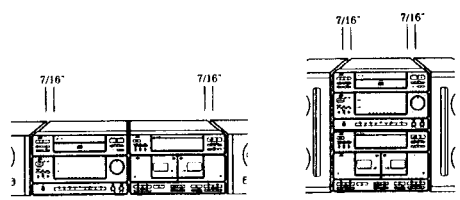
Connecting the Speakers

Each speaker has four terminals; two for the Full-Range speaker, and two for the Subwoofer speaker. Connect the speakers to the CD/Amplifier components as follows:



Laying Out the System

There are two ways to lay out the system: You can stack the CD/Amplifier on top of the Tape Deck/Tuner, or you can set the two components side-by-side. (Set the CD/Amplifier on the left and Tape Deck/Tuner on the right as you face them.)



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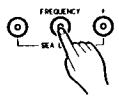
Controlling Sound with the SEA Function



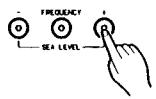
1. **Press the SEA button on the Amplifier.**

   The SEA indicator lights up.

2. **Press the FREQUENCY button on the Amplifier to select one of the seven frequency ranges to work on.**

   The frequency selected changes with each press of the FREQUENCY button in this order (from lowest to highest):

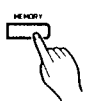
   ➤ 63Hz ➤ 160Hz ➤ 400Hz ➤ 1kHz ➤ 2.5kHz ➤ 6.3kHz➤ 16kHz ➤ (back to the beginning)



3. **Press the SEA LEVEL button (+ or –) on the Amplifier to set the level for the selected frequency range.**

   - Press the + button to increase sounds in the selected frequency range, and pressing the – button to decrease sounds in this frequency range.
   - Repeat steps 2-3 for each frequency range.

   Note: If you want to compare the new sound you have created with the way the system sounded before, press the SEA button on the Amplifier and listen to a selection of music. Then press the SEA button again to hear the new sound.



4. **Press the MEMORY button on the Amplifier to store your SEA pattern in memory.**

AmpLifieR

Using the Power Switch

1. **Press the POWER switch to turn on the CA-MX1BK.**

   When the POWER switch is not pressed and the power cord is plugged in, the stereo is in STANDBY mode and POWER STANDBY indicator lights. In STANDBY mode, the stereo uses a small amount of power (5 watts) for the clock, memory contents, and any timers which are set.

2. **To disconnect power completely, unplug the power cord.**

Adjusting the Volume Controls

Volume

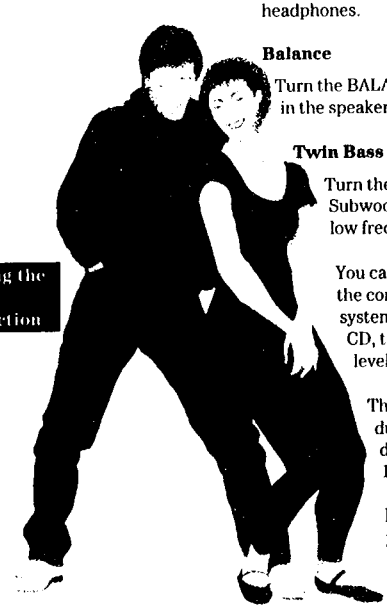
Turn the VOLUME knob to adjust the volume level of the speakers or headphones.

Balance

Turn the BALANCE knob to adjust the left-and-right sound balance in the speakers or headphones.

Twin Bass

Turn the TWIN BASS knob to adjust the output level of the Subwoofers. Turning this control toward MAX will boost the low frequencies.



Using the SEA Function

You can think of the SEA function as an enhanced version of the conventional Bass and Treble knobs on most sound systems. Use it to alter the tone of the source (for example, CD, tape, or broadcast) by increasing or decreasing the levels of selected frequency ranges.

The total frequency range that the CA-MX1BK can reproduce (from the lowest-pitched sounds to the highest) is divided into seven sections: 63Hz, 160Hz, 400Hz, 1kHz, 2.5kHz, 6.3kHz, and 16kHz.

By making certain frequency ranges louder or softer, you can change the sound to suit your taste. You can also choose from six pre-programmed SEA settings.

Using DAT and VCR

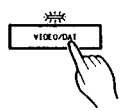
In addition to the CD Player, Tuner, and Cassette Tape Deck, the CA-MX1BK can also play a DAT, a VCR, and a Video Disk Player. To connect these sources, see "Connecting Other Components" on page 5.

Playing a Video Cassette

When a VCR is connected, the sound is heard through the speakers .

1. **Put a video cassette in the VCR.**
2. **Press the VIDEO/DAT button on the Amplifier.**
3. **To operate the VCR, refer to its instruction manual.**
   - You can operate a JVC VCR using the remote controller. See page 49 for more information.

Playing a DAT



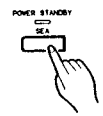
1. **Put a DAT cassette in the DAT deck.**
2. **Press the VIDEO/DAT button on the Amplifier.**
3. **To operate the DAT deck, refer to its instruction manual.**
   - You can operate a JVC DAT using the remote controller. See page 49 for more information.

Using an SEA Pattern

You can use the SEA pattern you created, or one of the six pre-programmed SEA patterns, each of which has its own sound characteristics.

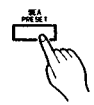
The pre-programmed SEA patterns are:

A	ROCK	Boosted low and high frequencies.
B	JAZZ	Gives a feeling of a live atmosphere. Good for acoustic music.
C	POPS	Good for vocal music.
D	CLASSIC	Set for wide and dynamic sound stereo systems.
E	HEADPHONE	When creating tapes for headphone use.
F	CAR	When creating tapes for use in a car stereo.



1. **Press the SEA button on the Amplifier.**

   The SEA indicator light goes on.



2. **Press the SEA PRESET button to select an SEA Pattern.**

   Each press of the SEA PRESET button changes the pattern displayed in the following order:

   ➤ M (your pattern) ➤ A (ROCK) ➤ B (JAZZ) ➤ C (POPS) ➤ D (CLASSIC) ➤ E (HEADPHONE) ➤ F (CAR) ➤ (back to the beginning)

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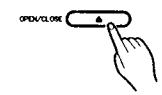
Cd Player

Starting Playback

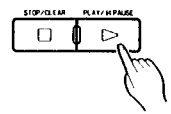


1. **Press the OPEN/CLOSE button on the CD Player.**

   The CD tray slides out.

2. **Place a CD (with the label facing up) in the tray, and press the OPEN/CLOSE button again.**

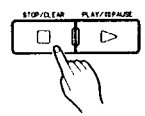
   The tray slides back in.



3. **Press the PLAY/PAUSE button on the CD Player, or the CD button on the Amplifier.**

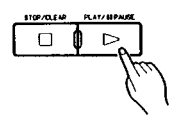
   The CD Player begins playing the first track on the CD.

Stopping Playback and Ejecting the CD



1. **Press the STOP/CLEAR button.**
2. **Press the OPEN/CLOSE button, and take the CD out of the tray.**
3. **Press the OPEN/CLOSE button again to close the tray.**

Stopping and Restarting Playback



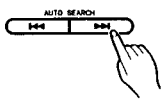
1. **Press the PLAY/PAUSE button.**

   Playback stops temporarily.

2. **Press the PLAY/PAUSE button again.**

   Playback restarts.

Selecting a Track to Play



Press the AUTO SEARCH buttons to scan through the track numbers.

Press the ⏮ button to find tracks with decreasing numbers, and the ⏭ button to find tracks with increasing numbers.

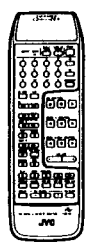
- If you press the AUTO SEARCH buttons when the CD Player is in the pause/stop mode, you will find the track you selected.

  You can restart playback by pressing the PLAY/PAUSE button.

- If you press the AUTO SEARCH buttons during playback, you will find the track you selected. Playback restarts at the beginning of the selected track.

A red mark appears above the selected track number on the display.

Using the Remote Controller to Select a Track



There are three ways to search for a track with the remote controller:

Numeric keypad

AUTO SEARCH buttons ⏮ or ⏭

MANUAL SEARCH buttons ⏪ or ⏩

Using the Numeric Keypad

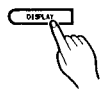
1. **Press the CD 10KEY button on the Remote Controller.**
2. **Enter the track's number with the numeric keys.**

- If the track you want to hear is the 8th track, press the 8 key.
- If the track you want to hear is the 15th track, press the +10 key and the 5 key.
- If the track you want to hear is the 27th track, press the +10 key twice and the 7 key once.

Note: If the track number is greater than 20, the red mark will not appear.

Displaying the Elapsed and Remaining Playing Time

Using the DISPLAY button, you can display the total time the CD (or current track) has been playing, and the amount of time that remains. This is useful in situations such as recording, when you need to know how long the track or CD has been playing, or the amount of time that remains on the track or CD.



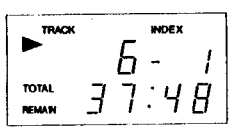
Press the DISPLAY button to show the time you want.

There are four display times:

EACH	The total elapsed playing time since the beginning of playback of the current track
EACH REMAIN	The time remaining until the end of the current track
TOTAL	The total elapsed playing time since the beginning of playback of the CD
TOTAL REMAIN	The time remaining until the end of the CD

The display changes each time you press the DISPLAY button.

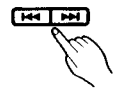
For Example:



Display mode: TOTAL REMAIN
Current track: 6th
Total remaining time: 37 minutes, 48 seconds

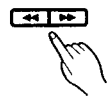
Using the Auto Search Buttons

Press the Auto Search ⏮ or ⏭ button on the Remote Controller. See "Selecting a Track to Play" on page 13.



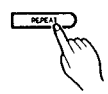
Using the Manual Search Buttons

Press the Manual Search ◀◀ or ▶▶ button on the Remote Controller to search for a certain part of the track.



Listening Repeatedly

Using the REPEAT button, you can play the entire CD or a selected track repeatedly.



Playing the Entire CD Repeatedly

◆ During playback, press the REPEAT button once.

The CD will play through the last track and then start over again. It will keep repeating until you cancel the repetition.

Playing a Selected Track Repeatedly

◆ During playback, press the REPEAT button twice.

The current track will play to the end and then start over again. It will keep repeating until you cancel the repetition.

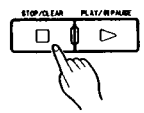
Cancelling Repetition

Press the REPEAT button again.

Each track will play to the end and not repeat.

(No. 23178) 1-11

Programming Your Own Playback Sequence



You can program the CD Player to play back the tracks of a CD in any order.

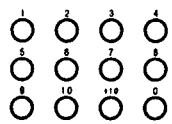
1. **Press the STOP/CLEAR button on the CD Player.**

   This puts the CD Player in STOP mode and clears existing programs from the memory.

2. **Press the PROGRAM button on the Remote Controller.**

3. **Press the CD 10KEY button on the Remote Controller.**

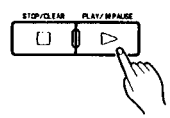
   Pressing the CD 10KEY button places the numeric keys in CD mode.



4. **Enter the track numbers with the numeric keys in the order you want them played back.**

   - **For example:** if the first three tracks you want to hear played back are tracks 17, 5, and 10, press the +10 key and the 7 key (for track 17). Then press the 5 key (for track 5) and the 10 key (for track 10).
   - You can program up to 32 tracks.

     If the total time of all the programmed tracks is 100 minutes or more, the display will show "—:—" (since the highest time the display can show is "99:59").



5. **Press the PLAY/PAUSE button on the CD Player, or the CD CONTROL ▷ button on the Remote Controller.**

   Playback begins with the first track in the program.

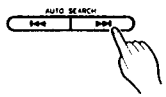
6. **To add a track to the program during playback, enter the track number with the numeric keys on the Remote Controller.**

   The new track is added to the end of the program.

Checking the Program

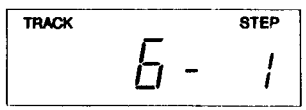
You can check the programmed sequence of playback to determine which tracks will be played in which order.

Note: The program contents cannot be displayed during playback. Press the STOP/CLEAR button if the CD Player is in play mode.

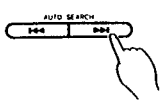


1. **Press the AUTO SEARCH button once.**

   The first track in the program is displayed, along with its sequence number.

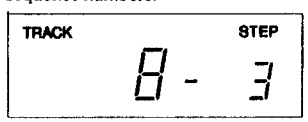


For example: this display shows that the 6th track will be played first.



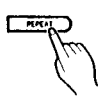
2. **Press the AUTO SEARCH button repeatedly.**

   The rest of the tracks in the program are displayed, along with their sequence numbers.

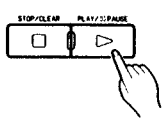


For example: this display shows that the 8th track will be played third.

Listening to Programmed Tracks Repeatedly



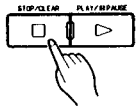
1. **Press the REPEAT button to listen to the programmed sequence of playback repeatedly**



2. **Then press the PLAY/PAUSE button.**

Updating the Entire Program

You can replace the old program with a new one.



1. **Press the STOP/CLEAR button on the CD Player.**

   This clears the programmed sequence of playback from memory.

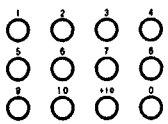
   To clear the program during playback:

   - Press the STOP/CLEAR button twice (once to stop, twice to clear the program from memory)
   - Press the STOP/CLEAR button after pressing the STOP button on the Remote Controller.

2. **Press the PROGRAM button on the Remote Controller.**

3. **Press the CD 10KEY button on the Remote Controller.**

   Pressing the CD 10KEY button puts the numeric keys in CD mode.



4. **Enter the track numbers with the numeric keys in the order you want them played back.**

Cancelling Programmed Playback

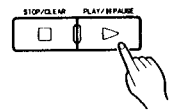
1. **Press the PROGRAM button on the Remote Controller.**

   This puts the CD Player in normal playback mode. The tracks will play back in their regular order.

Note: When Tuner is selected as the source, CD OFF is displayed, and only the OPEN/CLOSE disk tray and PLAY/PAUSE buttons can be used. To use other buttons, press the CD button on the Amplifier or the PLAY/PAUSE button on the CD Player first.

Updating the Program

You can add and delete tracks from the program.



Note: The program contents cannot be updated during playback. Press the STOP/CLEAR button if the CD Player is in play mode.

Adding Tracks to the Program

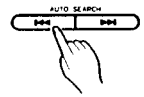
1. **Press the CD 10KEY button on the Remote Controller.**

   Pressing the CD 10KEY button puts the numeric keys in CD mode.

2. **Enter the track numbers with the numeric keys in the order you want them played back.**

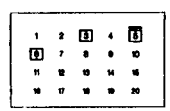
   The track numbers you enter are added to the end of the program.

Deleting Tracks from the Program



1. **Press the AUTO SEARCH buttons to select the track to be deleted from the program.**

   A red mark is displayed above the track that is to be deleted.



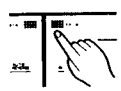
2. **Press the CANCEL button on the Remote Controller.**

   - The track number with the red mark above it is deleted from the program.
   - If the CANCEL button is pressed and no track has been selected for deletion, the last track in the program is deleted.

(No. 2) 178) 1-13

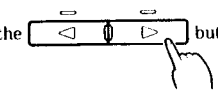
Tape Deck

Playing a Tape

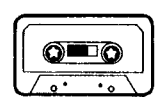


The tape deck has an Auto Tape Select feature, which can tell the difference between various types of cassette tape. It can distinguish between Normal (Type I), CrO_2—High Position (Type II), and Metal (Type IV). After it determines the tape type, bias and equalization are automatically set for the tape.

1. **Press the EJECT on the corner of the cassette holder.**
2. **Insert a cassette and shut the cassette holder.**
3. **If the tape was recorded with Dolby B noise reduction, press the DOLBY B NR button.** The indicator light will go on.
4. **Start playback by either of the following methods:**

◆ Press the  button.

Press the ▷ button if the tape is wound mostly on the left side.



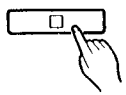
Press the ◁ button if the tape is wound mostly on the right side.

◆ Press the TAPE button on the Amplifier.

Note: When cassettes are in both decks A and B, deck B starts first.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

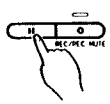
Stopping Playback and Ejecting the Tape

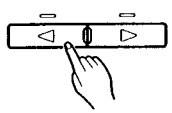


1. **Press the STOP button on the tape deck.**
2. **Press the EJECT on the corner of the cassette holder to open and remove the tape from the cassette holder.**
3. **Shut the cassette holder.**

Note: If the system is turned off while a tape is playing, you may not be able to eject the tape. You will need to turn the system back on and press the EJECT on the cassette holder to open it.

Stopping and Restarting Playback





1. **Press the PAUSE button on the tape deck.**

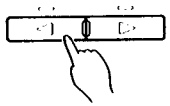
Playback of the tape in deck B stops temporarily.

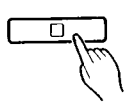
Note: The PAUSE button only applies to deck B.

2. **Press the ◁ or ▷ button.**

This restarts playback of the tape in deck B.

Changing the Playback Direction





1. **To change the playback direction during playback, press the ◁ or ▷ button.**

The other side of the tape will now play.

2. **To change the playback direction without starting playback, press the ◁ or ▷ button while also pressing the Stop □ button.**

This allows you to set the tape direction for a timed recording.

Searching for Beginning of the Next Track

- If the tape is travelling in the forward direction, press the ▷ playback button simultaneously with the ▸▸ fast-winding button.
- If the tape is travelling in the reverse direction, press the ◁ playback button simultaneously with the ◂◂ fast-winding button.

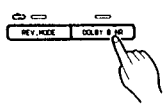
Note: The deck that is playing will stop if the music scan function is used on the other deck.

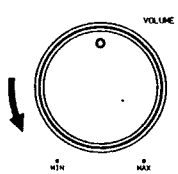
The music scan function is not effective:

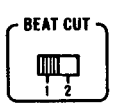
- When the track being scanned contains an area of low sound level.
- When the blank between tracks is short.
- When there is noise, for example, a hum between tracks.

Recording a Tape

Recording Notes:







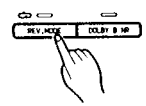
- To reduce hiss, use the Dolby B noise reduction system. Press the DOLBY B NR button. The indicator light will go on.
- To record on sides A and B continuously, press the REV. MODE button. The indicator light will go on.

  The source will be recorded to the end of side A. Then the tape will reverse direction and recording will continue on side B.
- The recording level is set automatically.
- If you don't want to hear the system during recording, turn the VOLUME knob on the Amplifier down.
- If the small tabs on cassette tapes to prevent accidental erasure have been removed, the contents of the tape cannot be recorded over. To record, cover the holes with adhesive tape.
- If you are recording an AM broadcast and you hear interference, move the BEAT CUT switch on the back of the stereo from Position 1 (the normal mode) to Position 2.

Fast-Winding the Tape

Press the ◂◂ or ▸▸ buttons on the Tape Deck to advance the tape rapidly in the direction of the arrows.

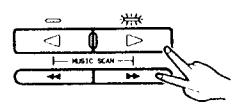
Listening to Tape Continuously



You can set the tape deck up to play both sides of the tapes in decks A and B repeatedly.

1. **Insert cassettes into decks A and B.**
2. **Press the REV. MODE button of deck B.**
   - Deck B will be placed in reverse mode, which means that it will play all of one side of the tape and then all of the other side.
   - Deck A is automatically in reverse mode.
3. **Press the ◁ or ▷ button of the deck to be started first.**
   - Now both sides of both tapes will play repeatedly.
   - If deck B is not placed in reverse mode, all of the tape in deck A will play, but only one side of the tape in deck B will play.
   - If you press the TAPE button on the Amplifier, deck B will start first.

Music Scanning



The music scan function will detect the blank segments between tracks. The blank should be about 4 seconds long for the music scan to be effective.

You can locate the beginning of the current track or next track quickly by pressing the playback button and the fast-winding button simultaneously.

Searching for Beginning of the Current Track

- If the tape is travelling in the forward direction, press the ▷ playback button simultaneously with the ◂◂ fast-winding button.
- If the tape is travelling in the reverse direction, press the ◁ playback button simultaneously with the ▸▸ fast-winding button.

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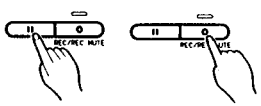
Dubbing a Tape

You can make a tape-to-tape recording at either normal or high speed. Recording from another tape is called dubbing.

Normal-Speed Dubbing

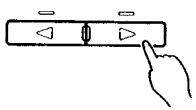


1. **Insert the cassette for playback into deck A and the cassette for recording into deck B.**

   - Deck A is used for playback only, and deck B is used for both recording and playback.
   - The type of tape (Normal, CrO_2, or Metal) used for recording must be the same as that used for playback.
   - To dub a tape which was recorded with Dolby B noise reduction, set the DOLBY B NR button on the Tape Deck and the SEA button on the Amplifier to the OFF position.

2. **Press the Pause ⏸ button while simultaneously pressing the REC/REC MUTE button on deck B.**

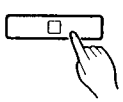
   This places deck B in REC/PAUSE mode.



3. **Press the PLAY button ◁ or ▷ (depending on which side of the tape you want to record from) on deck A.**

4. **Press the PLAY button ◁ or ▷ (depending on which side of the tape you want to record onto) on deck B.**

   - The tape-to-tape recording starts.



Note: You cannot listen to another source during normal-speed dubbing.

- To stop normal-speed dubbing before the end of either the playback or record tape, press the Stop □ buttons on decks A and B.

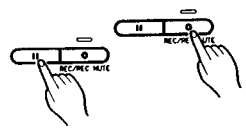
Recording from Various Sources

1. **Insert a cassette for recording into deck B.**

   Deck A is used for playback only, and deck B is used both for recording and playback.

2. **Select the source you are recording from:**

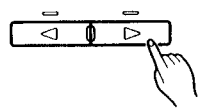
   You can record from the CD Player, the DAT Player, the tuner, or the VCR.



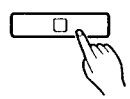
3. **Press the Pause ⏸ button on the Tape Deck while simultaneously pressing the REC/REC MUTE button.**

   This puts the tape deck in REC/PAUSE mode.

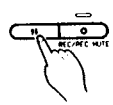
4. **Start the source to be recorded.**



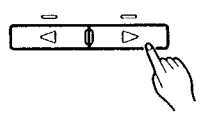
5. **Press the play button on deck B to start recording.**



6. **To stop recording, press the Stop □ button.**



7. **To stop recording temporarily, press the Pause ⏸ button on deck B.**

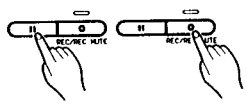


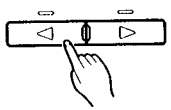
8. **To restart recording again, press the PLAY button ◁ or ▷.**

   This way you can avoid recording unwanted portions of the source such as commercials over a broadcast.

   Note: It may be unlawful to record or playback copyrighted material without the consent of the copyright owner.

Erasing a Tape





1. Insert the tape to be erased into deck B.

◆ To erase music on both sides, press the REV. MODE button on the Tape Deck.

2. Press the Pause ⏸ button while simultaneously pressing the REC/REC MUTE button.

This puts the deck in REC/PAUSE mode.

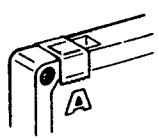
3. Press the TAPE button on the Amplifier.

4. Press the ◁ or ▷ button (depending on which side of the tape you want to erase) on deck B.

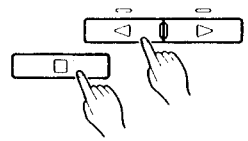
The erasure of the tape begins.

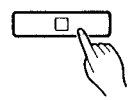
◆ Small tabs are provided on cassette tapes to prevent accidental erasure. If these tabs have been removed, the contents of the tape cannot be erased or recorded over.

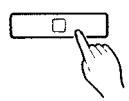
◆ To record or erase, cover the holes with adhesive tape. (The tab in the upper left corner is the tab for the side facing you, and the other tab is for the opposite side.)

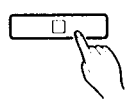


High-Speed Dubbing









1. Insert the cassette for playback into deck A and the cassette for recording into deck B.

◆ To change the playback direction of deck A, hold down the Stop □ button and press the ◁ or ▷ buttons.

2. Press the HIGH SPEED DUBBING button on the Tape Deck.

◆ The high-speed tape-to-tape recording starts.

Note: You can listen to another source while high-speed dubbing is in progress.

◆ To stop high-speed dubbing before reaching the end of either the playback or record tape, press the Stop □ button on deck B.

Note: If a nearby television is on during high-speed dubbing, a beeping noise may be recorded onto the record tape. Turn off the television or move it farther away.

3. Press the Stop □ button on deck A when you hear the end of a track to record from many different tapes (for example, to create a "Greatest Hits" tape)

Deck A stops playback, and deck B automatically creates about a 4 second blank, then pauses.

Note: If you don't want this blank, press the Pause ⏸ button on deck B before pressing the Stop □ button.

4. Put another tape into deck A.

5. Press the HIGH SPEED DUBBING button on the Tape Deck.

The high-speed dubbing restarts.

6. To record tracks from other tapes, repeat steps 3 - 5.

Note: The SEA Function is not effective during high-speed dubbing.

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Recording CD Tracks in Auto-Edit Mode

In Auto-Edit mode, tracks from the CD will automatically be selected to determine which tracks should go on side A of the tape and which should go on side B.

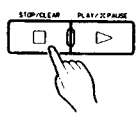
The selection is based on the lengths of the tracks and the length of the tape. This ensures a proper "fit" of the tracks recorded on the tape. It prevents a track from being cut off when the end of the tape is reached.

1. **Insert the cassette for recording in deck B.**

   ♦ Press the REV. MODE button on the Tape Deck if you want to record on both sides of the cassette.

2. **Put the CD in the CD Player.**

   See "Starting Playback" on page 12 for instructions on how to load a CD.



3. **Press the STOP/CLEAR button on the CD Player.**

4. **Press the A. EDIT button on the CD Player to tell the system the length of the tape in the Tape Deck.**

   ◆ The tape length most suitable for CD recording is displayed first.

   ◆ Each time the A. EDIT button is pressed, the next standard tape length blinks, in this order:

   ➤ C46 ➤ C54 ➤ C60 ➤ C74 ➤ C90 ➤ (back to the beginning)

   ◆ You can also enter a non-standard tape length from the Remote Controller using the numeric keys.

   For example: to enter a tape length of 50 minutes, press the CD 10KEY button on the Remote Controller, then press the +10 (11) key four times and the 10 key once.

Direct Recording from the CD Player

The system sets recording levels automatically.

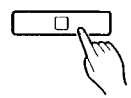
1. **Insert the cassette for recording into deck B.**

2. **Put a CD in the CD Player.**

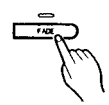
   ◆ See "Starting Playback" on page 14 for instructions on how to load a CD.

3. **Press the CD REC START button on the Tape Deck.**

   ◆ The CD Player and the Tape Deck are activated, and recording begins with the first track of the CD.



   ◆ To stop direct recording, press the STOP button on deck B or the STOP/CLEAR button on the CD Player.



4. **To fade out the CD gradually at the end of the tape, press the FADE button on the CD Player.**

   The volume level of the last track on the tape is lowered gradually to 0. This makes a nice ending to your tape and prevents an abrupt cut-off of music if the tape ends before the CD.

5. **To cancel the fade-out function during recording, press the FADE button again on the CD Player.**

   The fade-out function operates in both forward and reverse directions.

   ◆ When the end of the tape is reached, the tape is rewound to the the beginning of the last track.

   ◆ The last track is played back again from the CD Player and recorded again on the tape. This time the sound level is reduced gradually at the end.

Recording CD Tracks in Programmed-Edit Mode

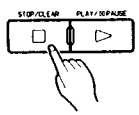
In Programmed-Edit Mode, you decide which tracks from the CD will be recorded, and in what order.

1. **Insert the cassette for recording in deck B.**

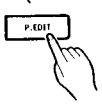
   ◆ Press the REV. MODE button on the Tape Deck if you want to record on both sides of the cassette.

2. **Put the CD in the CD Player.**

   See "Starting Playback" on page 12 for instructions on how to load a CD.



3. **Press the STOP/CLEAR button on the CD Player.**



4. **Press the P. EDIT button on the CD Player to tell the system the length of the tape in the Tape Deck.**

   ◆ Each time the P. EDIT button is pressed, the next standard tape length blinks, in this order:

   ➤ C46 ➤ C54 ➤ C60 ➤ C74 ➤ C90 ➤ (back to the beginning)

   ◆ You can enter a non-standard tape length from the Remote Controller using the numeric keys.

   For example: to enter a tape length of 50 minutes, press the CD 10KEY button on the Remote Controller. Then press the +10 (11) key four times and the 10 key once.

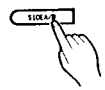
5. **Press the SIDE A/B button on the CD Player.**

   ◆ This tells the system that you will be choosing tracks to be recorded on side A of the tape.

   ◆ The length of time for one side of the tape is displayed. This is half of the total tape length. The total time for the tracks you choose for each side cannot exceed this time.

   ◆ If you do not press the SIDE A/B button, side A is automatically selected.

   Note: During recording in the Programmed-Edit Mode, do not operate the CD Player.



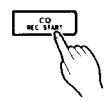
5. **Press the SIDE A/B button on the CD Player.**

   ◆ The CD Player calculates which tracks should be placed on side A and which should be placed on side B, based on the lengths of the tracks and the length of the tape. The number of each track selected for placement on side A or B blinks on the display.

   ◆ If there are track numbers that do not blink after you have pressed the SIDE A/B button, this means that the tape has more room. To add these tracks, use the numeric keys on the Remote Controller.

   ◆ If you do not press the SIDE A/B button, the CD Player automatically decides which tracks should be placed on sides A and B about 4 seconds after the A. EDIT button is pressed.

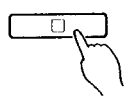
   Note: Up to 16 tracks can be allocated for each side of the cassette.



6. **Press the CD REC START button on the Tape Deck.**

   ◆ The tape is automatically rewound to the beginning of side A, a 15 second blank is created, and then recording begins.

   ◆ When deck B is set in the Reverse Mode, after the last track is recorded on side A, the tape deck high-speed-erases to the end of side A. Then it changes direction to side B and begins recording the remaining tracks.



   ◆ To stop recording, press the Stop □ button on deck B, or press the STOP/CLEAR button on the CD Player.

   ◆ After the last track has been recorded, a 4 second blank is created. Then the tape stops automatically.

   Note: During recording in the Auto-Edit Mode, do not operate the CD Player.

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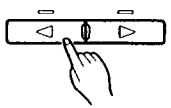
Recording With the SEA Function

The SEA Function is used to alter the tone of the source by increasing or decreasing the levels of selected frequency ranges.

You can use this function to control the way the tracks from the CD will sound when they are recorded on the tape.

1. **Insert the cassette for recording in deck B.**
2. **Press the SEA button on the Amplifier.**
   - ◆ The indicator light will go on.
   - ◆ To create the desired sound, see "Controlling Sound with the SEA Function" on page 9.

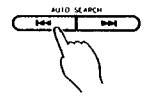


3. **Press the ◁ or ▷ button on the Tape Deck while holding down the REC/REC MUTE button.**

Recording starts.

SEA Function Notes

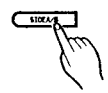
- ◆ The SEA Function cannot be used during high-speed dubbing.
- ◆ If the source you are recording from is a cassette in deck A that was created using Dolby B noise reduction, the noise reduction effect is lost when you dub using the SEA Function.
- ◆ To keep the noise reduction effect of the cassette in deck A, use either of these methods:
  - High-speed dubbing.
  - Normal speed dubbing, with the SEA Function off and the DOLBY B NR button set to OFF.



6. **Press the CD 10KEY button on the Remote Controller.**

This places the numeric keys in CD Mode.

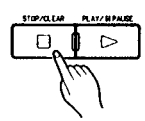
7. **Enter the numbers of the tracks you want recorded on one side of the tape.**
   - ◆ Tracks on a CD assigned numbers 32 or greater cannot be entered in the program.
   - ◆ If the length of a track exceeds the remaining tape length, the time indication blinks on the display. Choose a different track number.
   - ◆ To delete a track from the program, specify the track with the AUTO SEARCH buttons on the CD Player. Then press the CANCEL button on the Remote Controller.
   - ◆ To add a track to the program, enter the track's number with the numeric keys on the Remote Controller.



8. **If you also want to record on the other side of the tape, press the SIDE A/B button on the CD Player and repeat step 7.**

If you only want to record on one side of the tape, skip this step.

9. **Press the CD REC START button on the Tape Deck.**
   - ◆ The tape is automatically rewound to the beginning of side A, a 15 second blank is created, and then recording begins.
   - ◆ After the last track is recorded on side A, the tape deck high-speed-erases to the end of side A. It changes direction to side B, and begins recording the remaining tracks on side B.



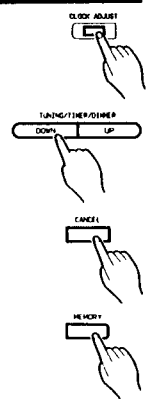
   - ◆ To stop recording, press the STOP button on deck B, or press the STOP/CLEAR button on the CD Player.
   - ◆ After the last programmed track has been recorded, a 4 second blank is created. Then the tape stops automatically.

Note: The program cannot be edited during recording. To change the program, press the STOP/CLEAR button on the CD Player and begin with step 4 of this procedure.

tuNer

The clock will be displayed even when the system is turned off. Pressing the TUNING/TIMER/DIMMER buttons (UP or DOWN) will switch between two brightness levels for the clock.

Setting the Clock



1. **Press the CLOCK ADJUST button on the Tuner.**

   The hours digits blink.

2. **Press the TUNING/TIMER/DIMMER button (UP or DOWN) to set the hours digit.**

   - Press the UP button to increase the hour, and press the DOWN button to decrease the hours.
   - To enter a new hour digit, press the CANCEL button and repeat step 2.

3. **Press the MEMORY button on the Tuner.**

   This sets the hour portion of the time.

   - The minutes digits will blink.

4. **Press the TUNING/TIMER/DIMMER button (UP or DOWN) to set the minutes digit.**

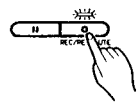
   - It's a good idea to set the minutes digits one minute ahead. Then you can start the clock when it reaches the set time exactly (according to the correct time from the TV, radio, or telephone).
   - To enter a new minute digit, press the CANCEL button and repeat step 4.

5. **Press the MEMORY button.**

   The clock starts as soon as you press the MEMORY button.

Caution: If there is a power failure, or if you unplug the stereo, the clock time will be lost. Repeat steps 1-5 when power is restored.

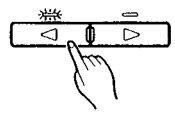
Creating a Blank During Recording



Use the Record Muting function when you do not want to record a section of the source.

1. **Press the REC/REC MUTE button on the Tape Deck at the beginning of the section you don't want to record.**

   A blank of about 4 seconds is created on the cassette, and then the deck pauses.



2. **To start recording again, press the ◁ or ▷ button.**

   - To create a blank of more than 4 seconds, hold down the REC/REC MUTE button. When you release this button, the deck pauses.
   - When the source you are recording from is the CD Player and the CD REC START button is used, the REC/REC MUTE button will not function.

Recording with the Timer

The CA-MX1BK can be set up to record a tape automatically. This is especially useful for recording broadcasts when you are not around, or late at night when you are asleep.

1. **Insert a cassette for recording into deck B.**

2. **Set the timer, by following the steps in "Setting the Timers" on page 37 .**

3. **Select one of the following sources:**

TUNER TIMER REC	Records TUNER preset stations
-- TIMER REC	Records from the source selected before turning off the system

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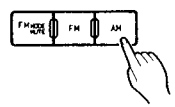
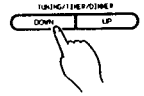
Listening to Broadcasts (FM and AM)

The Tuner of the CA-MX1BK can receive FM and AM broadcasts. Stations can be tuned in manually, automatically, or from preset memory storage.

Manual Tuning

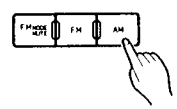


1. **Select the broadcast band you want to tune in by pressing the FM or AM button on the Tuner.**

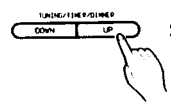


2. **Press the TUNING/TIMER/DIMMER button (UP or DOWN) to tune in a station.**
3. **Hold down the TUNING/TIMER/DIMMER button to change the frequency rapidly, then tap the button to set the frequency precisely.**

Automatic Tuning



1. **Select the broadcast band you want to tune in by pressing the FM or AM button on the Tuner.**

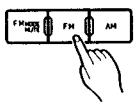


2. **Hold down the TUNING/TIMER/DIMMER button (UP or DOWN) for a moment, and then release the button.**
   - When a station is tuned in, the TUNED indicator lights up.

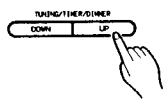
Note: The Tuner will tune in the nearest strong station.

Presetting Stations in Memory

You can store up to 40 of your favorite radio stations (FM and AM) in memory, giving you quick, easy access to the stations.



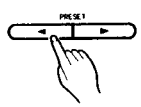
1. **Select a band by pressing either the FM or AM button on the Tuner.**



2. **Press the TUNING/TIMER/DIMMER button (UP or DOWN) to tune in a station.**

3. **Press the MEMORY button on the Tuner.**

   The "MEMORY" indicator on the Tuner display blinks for 5 seconds.



4. **Press the PRESET button (◄ or ►) on the Tuner to assign a number (1 ~ 40) to the station, or enter a number (1 ~ 40) on the Remote Controller's numeric keypad.**
   - If you press another button by mistake, press the MEMORY button again and repeat step 4.
   - If the "MEMORY" indicator has stopped blinking, press the MEMORY button again and repeat step 4.
   - If the preset number you choose already has a station assigned to it, the old station will be replaced by the new one.

5. **Press the MEMORY button again.**

   This stores the station in memory, with the preset number (1 ~ 40) you chose in step 4.

6. **Repeat steps 1-5 for each station you want to store in memory with a preset number.**

   Caution! If the system is unplugged or if a power failure occurs, the preset stations stored in memory may be lost.

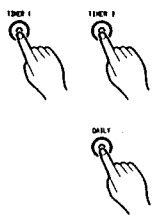
Timers

Setting the Timers

The CA-MX1BK has three timers that are used to turn the system on and off automatically:

TIMER1
TIMER2
DAILY

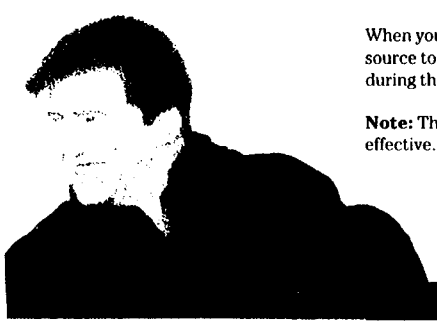
With the timers you can make tape recordings of broadcasts, CD's, or tapes when you're not around. You can also play these music sources at specified times without recording them.



- Use TIMER1 and TIMER2 to record a radio broadcast when you're not home, or late at night when you're asleep.
- Use the DAILY timer to record a broadcast that occurs at the same time every day.
- The procedure for setting TIMER1, TIMER2, and the DAILY timer is the same. You need to tell the system:
  - The name of the timer (TIMER1, TIMER2, or DAILY).
  - The time the timer should turn the system on.
  - The time the timer should turn the system off.
  - The source the timer should turn on (Tuner, CD, or Tape).
  - The volume level that should be used during recording or playback.

When you have given the system this information, it will know which source to turn on, when to turn it on and off, and how loud to play during this time period.

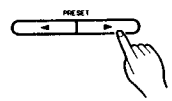
Note: The clock must be set to the correct time for the timers to be effective. See "Setting the Clock" on page 35.



Cancelling Preset Stations

1. **Press the CANCEL button on the Tuner.**

   The "CANCEL" light on the Tuner display blinks for 5 seconds.



2. **Press the PRESET button (◄ or ►) on the Tuner to select the preset station you want to cancel.**

   If the "CANCEL" light has stopped blinking, press the CANCEL button again and repeat step 2.

3. **Press the CANCEL button again.**

   The preset station will be cancelled.

Tuning in Preset Stations

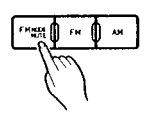
- Press the PRESET button (◄ or ►) on the Tuner to select the preset station you want. The preset station numbers are displayed sequentially each time you press the PRESET button.
- You can also select a station by entering its preset number on the Remote Controller's numeric keypad.

FM Reception Modes

There are two FM reception modes: AUTO and MONO.

AUTO: Stations are tuned in with either STEREO or MONO, depending on the strength of the FM signal.

MONO: Stations are tuned in with MONO only. This will reduce interference noise of weak stations and make the reception sound better.



1. **Press the FM MODE/MUTE button on the Tuner to switch between the AUTO and MONO reception modes.**

2. **Press the FM MODE/MUTE button on the Remote Controller to the AUTO mode to receive the station in stereo.**

   - If a stereo broadcast is received when the FM band is selected, the "STEREO" light will be displayed on the Tuner.
   - If the FM Reception Mode is MONO, the "STEREO" light will not be displayed.

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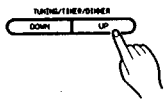
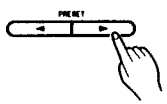
Selecting the Source



1. **Press the TUNING/TIMER/DIMMER (UP) button to select a source.**

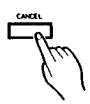
Repeatedly pressing the UP button displays the sources in the following order:

Display	What it means
-- -- --	Plays from whichever source was used just before turning off the system
TUNER	Plays FM or AM broadcast
TUNER TIMER REC	Records FM or AM broadcast
CD	Plays a CD
TAPE	Plays a tape
---- TIMER REC	Records from whichever source was used just before turning off the system



Note: If you choose an FM or AM radio station as the source, select the station by pressing the PRESET (►) button on the Tuner.

2. **Press the MEMORY button. This stores the source to play or record in memory.**

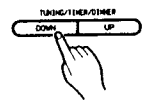


Note: To change your selection, press the CANCEL button and enter a new value.

Choosing a Timer

Press the TIMER1, TIMER2, or DAILY button on the Tuner to select a timer. This puts the system in the Timer Setting mode. The information that the system expects next will blink on the display.

Setting the Start Time



1. **Press the TUNER/TIMER/DIMMER buttons, as in step 1, to set the minute.**

The DOWN button makes the hour number decrease, and the UP button makes the hour number increase.

2. **Press the MEMORY button.**

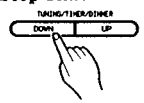
This stores the hour portion of the start-time in memory.

3. **Press the TUNER/TIMING/DIMMER buttons, as in step 1, to set the minute.**

4. **Press the MEMORY button.**

This stores the minute portion of the start-time in memory.

Setting the Stop Time



1. **Press the TUNING/TIMER/DIMMER buttons to set the hour that the system will turn off.**

The DOWN button makes the hour number decrease, and the UP button makes the hour number increase.

2. **Press the MEMORY button.**

This stores the hour portion of the stop-time in memory.

3. **Press the TUNING/TIMER/DIMMER buttons to set the minute.**

4. **Press the MEMORY button.**

This stores the minute portion of the stop time in memory.

Caution! Do not operate the remote controller when you are programming the timer.

Resetting the Timers

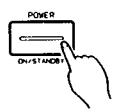
To reset a timer, press the button (TIMER1, TIMER2, or DAILY) on the Tuner twice. Now the timer is set again and will use the same start-time, stop-time, source, and volume level as before.

Setting the Wake-Up and Sleep Timers

You can set a timer so it turns on to wake you up or turns off when you go to sleep.

Setting the Wake-Up Timer

The wake-up timer serves as an alarm clock. It turns the system on after a programmed time lapse and plays the source that was used before the system was turned off. You can set a wake-up time from between 5 minutes and 12 hours.



1. **Press the POWER switch on the Amplifier so it is off.**

2. **Press the WAKE UP/SLEEP button on the Tuner.**

   This tells the system that you are going to set the wake-up time.

3. **Press the WAKE UP/SLEEP button repeatedly until the desired wake-up time appears.**

   Each time you press the WAKE UP/SLEEP button, the wake-up time lapse changes in the following order:

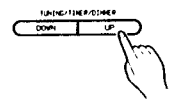
   ➤ 0:05 ➤ 0:10 ➤ 0:15 ➤ 0:30 ➤ 0:45 ➤ 1:00 ➤ 1:30 ➤ 2:00 ➤ 3:00 ➤ (every hour) ➤ 12:00 ➤ (back to the beginning)

   - If you make a mistake, press the CANCEL button on the Tuner and enter a new wake-up time with the WAKE UP/SLEEP button.
   - The wake-up timer has priority over TIMER1, TIMER2, and the DAILY timer.

     This means that if the start-time for one of the timers occurs before the wake-up time, the system will wait until the wake-up time to turn on.

Note: If CD is the source that will be used, playback begins with the first track.

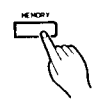
Setting the Volume



1. **Press the TUNING/TIMER/DIMMER up button to select a volume level.**

   Repeatedly pressing the UP button displays the volume levels in the following order:

Display	What It Means
Vol — —	Volume set to the level used before shut the power off
Vol — 0	Volume off
Vol — A	Volume barely on
Vol — B	Volume at 1/4 power
Vol — C	Volume at 1/3 power



2. **Press the MEMORY button.**

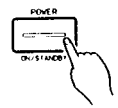
   This stores the volume level for timed playback or recording in memory. To change your selection, press the CANCEL button and enter a new value.

Pressing the Timer Button

This stores the timing information in memory. The timer you chose should light on the display.

Note: If the timer light does not light, the timer was not set properly, and you need to set the start time again.

Turning the System Off



Press the POWER button on the Amplifier to turn the system off.

- The system is now programmed to turn on at the preset start-time, and play or record until the stop-time.
- It will record or play the preset source at the preset volume level until the stop-time is reached.
- If you turn the system on before the start-time, the timer will still operate as programmed at the start-time.

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Checking the Remaining Time

After setting the wake-up or sleep timer, you can check the time remaining until the system turns on (wake-up time) or shuts off (sleep time).

Press the WAKE UP/SLEEP button.

The remaining time is displayed for 5 seconds. Then the clock time appears again.

Adding More Time

If you want more time before the wake-up timer turns the system on (or the sleep timer turns the system off), follow these steps:

1. **Press the WAKE UP/SLEEP button.**

   The remaining time is displayed for 5 seconds. Then the clock time appears again.

2. **Press the WAKE UP/SLEEP button again before the clock time is displayed.**

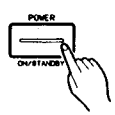
   - Keep pressing this button until the desired additional time is reached.
   - The added-time will be displayed in the following order:

     0:05 ➤ 0:10 ➤ 0:15 ➤ 0:30 ➤ 0:45

   Now the system will wait until the added amount of time until turning on or shutting off.

Cancelling the Time Setting

If you decide you don't want the system to wake you up or play music while you fall asleep, you can turn these timers off.



1. **To cancel the wake-up timer, press the POWER button on the Amplifier.**

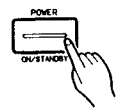
   This turns the power on.

2. **To cancel the sleep timer, press the POWER button on the Amplifier.**

   This turns the power off.

Setting the Sleep Timer

The sleep timer is used to turn off the system after a specified time lapse. With this timer you can fall asleep listening to music, knowing that the system will shut off automatically and not stay on all night. You can set the sleep timer to turn the system off from between 5 minutes and 2 hours



1. **Press the POWER switch on the Amplifier so it is on.**
2. **Start the source you want to listen to.**

3. **Press the WAKE UP/SLEEP button on the Tuner.**

   This tells the system that you are going to set the sleep time.

4. **Press the WAKE UP/SLEEP button repeatedly until the desired sleep time appears.**

   Each time you press the WAKE UP/SLEEP button, the sleep time lapse changes in the following order:

   ➤ 0:05 ➤ 0:10 ➤ 0:15 ➤ 0:30 ➤ 0:45 ➤ 1:00 ➤ 1:30 ➤ 2:00 ➤ (back to the beginning)

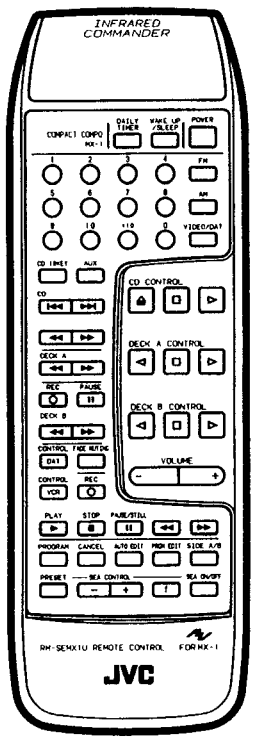
   - If you make a mistake, press the CANCEL button on the Tuner and enter a new sleep time with the WAKE UP/SLEEP button.

     The system will now turn off after this time lapse.

   - The sleep timer has priority over TIMER1, TIMER2, and the DAILY timer.

     This means that if the stop-time for one of the timers occurs before the sleep time, the system will wait until the sleep time before turning itself off.

Remote Controller Buttons



Note: When the Tuner is Selected as the source, and CD OFF is displayed, only the OPEN/CLOSE and PLAY buttons on the Remote Controller can be used.

To use other buttons on the Remote Controller (for programming and other operations), press the CD button on the Amplifier or the CD PLAY button on the Remote Controller first.

Function	Button(s) To Use
Turn power on or off	
Amplifier	
Adjust volume level	
Lower volume level gradually	
Listen to DAT or VCR	
Turning SEA Function on or off	
Selecting a frequency range for the SEA Function	
Setting a SEA level	
Using a SEA pattern	
CD Player	
Open and close the CD tray	
Play a CD	
Stop playback of a CD	
Place numeric keys in CD mode	
Select track number	0 ~ 10+
Scanning music	
Check program contents	
Change a program	
Fast forwarding/rewinding	
Program playback order	
Cancelling a program	

Note: + indicates pressing both buttons simultaneously.

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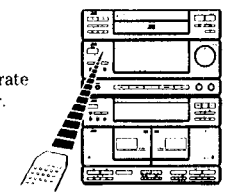
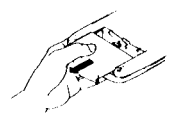


Operating the Remote Controller

You can use the Remote Controller to operate the CA-MX1BK without leaving your chair. You can use it up to a distance of 23 feet.

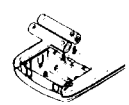
Point the Remote Controller at the remote sensor on the Amplifier.

Installing Batteries



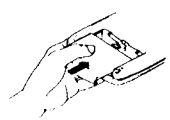
1. **Remove the battery compartment lid.**

   Press the lid and slide it in the direction of the arrow.



2. **Insert the batteries.**

   Use two AAA size batteries. Make sure the + and – polarities on the batteries and compartment are the same.



3. **Attach the lid.**

   Press the lid and slide it in the direction of the arrow.

Note: Batteries installed incorrectly may burst or leak. Pay attention to the following:

- When the Remote Controller is not in use for a long period of time, remove the batteries.
- Do not mix old and new batteries.
- Do not mix batteries of different types, even if their shapes are the same.
- When batteries become weak, the operating distance of the Remote Controller is greatly reduced and you will need to replace the batteries.

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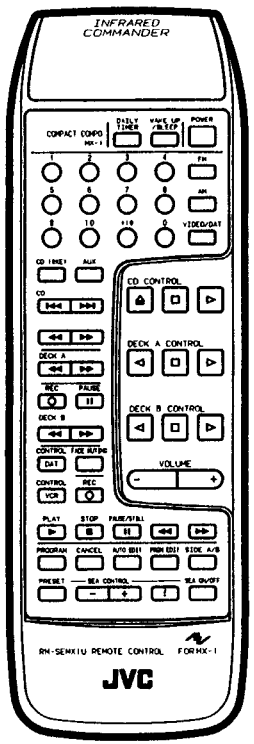


VCR

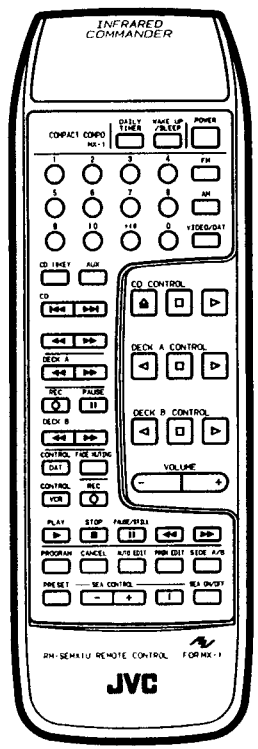
First select VCR mode ..... CONTROL + VCR
Recording ..... REC + PLAY
Play a tape ..... PLAY
Stop playback ..... STOP
Stop recording or playback temporarily ..... PAUSE/STILL
Rewind the tape ..... ◀◀
Fast forwarding ..... ▶▶
Select a track number for playback ..... 0 ~ 9, 10

- When using the remote controller to operate a VCR, point the controller at the VCR.
- The numeric keys may have different functions depending on the JVC model VCR you have. See your VCR's manual for operating instructions.

DAT

First select DAT mode ..... CONTROL + DAT
Recording ..... REC + PLAY
Play a tape ..... PLAY
Stop playback ..... STOP
Stop recording or playback temporarily ..... PAUSE/STILL
Rewind the tape ..... ◀◀
Fast forwarding ..... ▶▶
Select a track number for playback ..... 0 ~ 9, 10

- When using the remote controller to operate a DAT, point the controller at the DAT.
- The numeric keys may have different functions depending on the JVC model DAT you have. See your DAT's manual for operating instructions.



Function	Button(s) To Use
Tape Deck	
(Press buttons corresponding to the deck being used, either deck A or B)	
Play a tape in forward direction	▶
Play a tape in reverse direction	◀
Stop playback temporarily	PAUSE
Stop playback	■
Fast forwarding or fast rewinding	◀◀ , ▶▶
Search for beginning of next track while in forward direction	▶ + ▶▶
Search for beginning of next track while in reverse direction	◀ + ◀◀
Search for beginning of current track while in forward direction	▶ + ◀◀
Search for beginning of current track while in reverse direction	◀ + ▶▶
Recording in forward direction	REC + ▶
Recording in reverse direction	REC + ◀
Pausing recording	REC + PAUSE
Restarting recording in forward direction	▶
Restarting recording in reverse direction	◀
Stopping recording	■
Recording from CD in the Auto-Edit mode	A/B EDIT, SIDE A/B, CD TIMER; 0 ~ 9, 10
Recording from CD in the Programmed-Edit mode	PRGM EDIT, SIDE A/B, CD TIMER; 0 ~ 9, 10
Tuner	
Selecting Tuner mode / Selecting a band	FM , AM
Presetting stations in memory	0 ~ 9, 10
Selecting a preset station	0 ~ 9, 10
Timers	
Setting/resetting the DAILY timer	DAILY TIMER
Setting the wake-up/sleep timer	WAKE UP/SLEEP

CA-MX1BK
CA-MX1LBK

JVC

SERVICE MANUAL

COMPACT STEREO COMPONENT SYSTEM

CA-MX1BK
MODEL NO. CA-MX1LBK

Supplement

This supplement contains additional information of the specifications of CA-MX1BK/LBK, AX-MX1BK/LBK, DR-MX1BK/LBK since there is lack of the information in the original service manual.

No. 20178B
July 1990

Specifications

CD / Amplifier Component

Dimensions	10-7/8 × 6-3/4 × 12-3/8 inches (275 × 170 × 314 mm)
Weight	15.0 lbs (6.8 kg)

Amplifier

Output Power	Main (SPEAKERS A): 30 watts per channel, min. RMS, both channels driven into 8 ohms at 1 kHz (DIN) Subwoofer (SPEAKERS B): 20 watts per channel into 3 ohms at 80 Hz with 0.9 % total hormonic distortion.
Total Harmonic Distortion at Half-Rated Power	0.3%
Input Sensitivity/Impedance (1kHz) VIDEO/DAT, AUX	300mV/40k ohms
SEA Center Frequencies	63, 160, 400, 1k, 2.5k, 6.3k, 16kHz
SEA Control Range	± 10dB

Compact Disc Player

Dynamic Range (1kHz)	90dB
Signal-to-Noise Ratio	100dB
Frequency Response	5Hz ~ 20kHz
Wow and Flutter	Unmeasurable

Tape Deck / Tuner Component

Dimensions	10-7/8 × 6-3/4 × 10-3/4 inches (275 × 170 × 273 mm)
Weight	7.3 lbs (3.3 kg)

Tape Deck

Frequency Response	Metal: 30 ~ 17,000Hz CrO_2: 30 ~ 16,000Hz Normal: 30 ~ 15,000Hz
Wow and Flutter (WRMS / DIN)	0.08% / 0.22%

FM Tuner

Tuning range	87.5 MHz ~ 108.0 MHz
Usable Sensitivity	0.95μV/75 ohms (10.8dBf)
Signal-to-Noise Ratio (IHF-A Weighted / DIN)	MONO (at 85dBf) 80dB/72dB STEREO (at 85dBf) 73dB/64dB

AM Tuner

Tuning range
MW

Area	Channel Space	
	9 kHz	10 kHz
Continental Europe, U.K., Australia	522 kHz ∿ 1629 kHz	—
Other Area	531 kHz ∿ 1602 kHz	530 kHz ∿ 1600 kHz

LW (CA-MX1LBK) 144 kHz ∿ 353 kHz

Design and specifications subject to change without notice.

POWER SPECIFICATIONS

Area	Line Voltage & Frequency	Power Consumption
UK Australia	AC 240V ∿, 50Hz	330 watts
Continental Europe	AC 220V ∿, 50Hz	170 watts
Other area	AC 110 / 127/ 220 / 240V ∿, selectable, 50/60 Hz	

JVC
VICTOR COMPANY OF JAPAN, LIMITED
AUDIO PRODUCTS DIVISION, YAMATO PLANT, 1644, SHIMOTSURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN

No. 20178B

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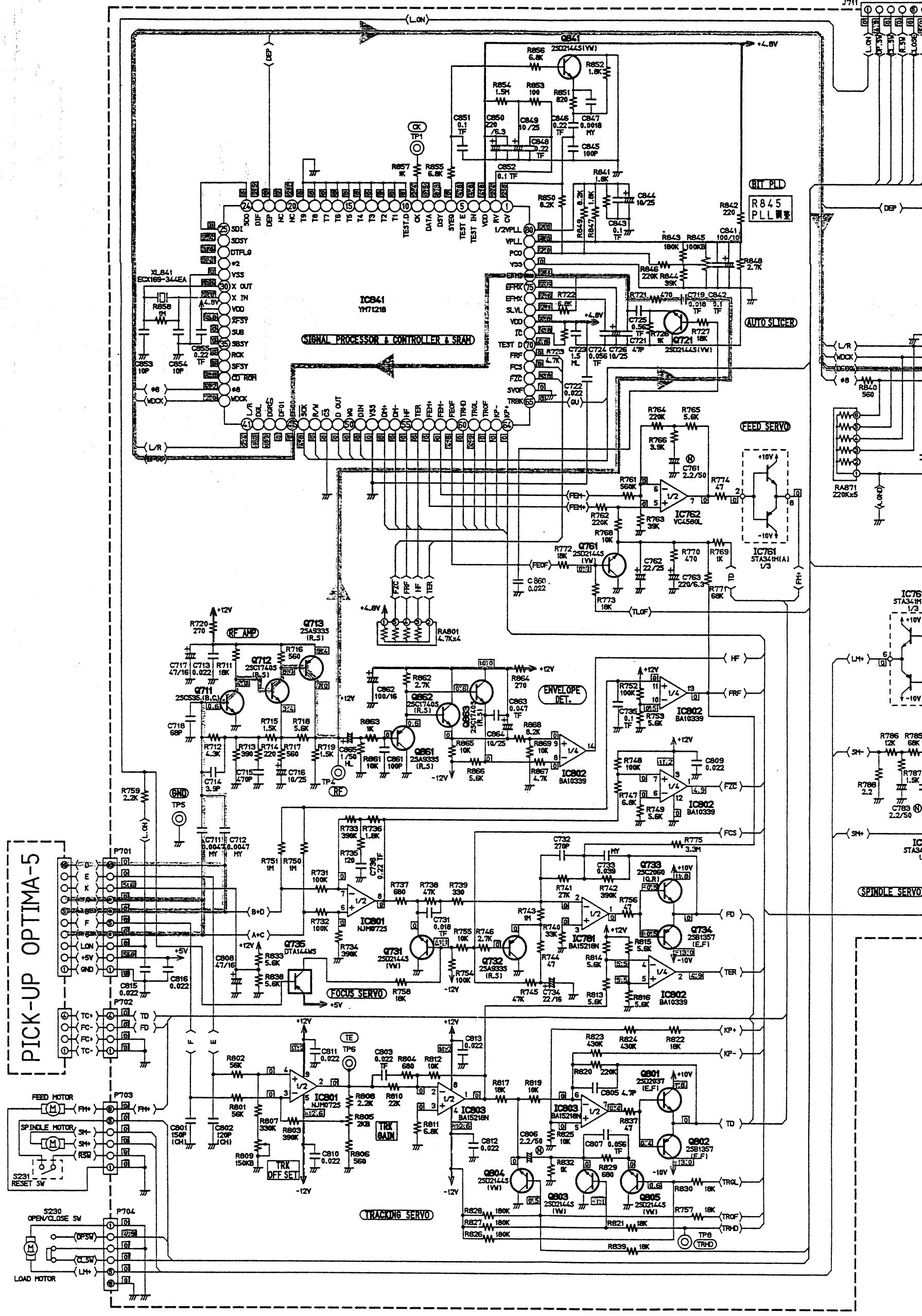
Printed in Japan
900-8 [S]

Schematic Diagram

■ CD Section



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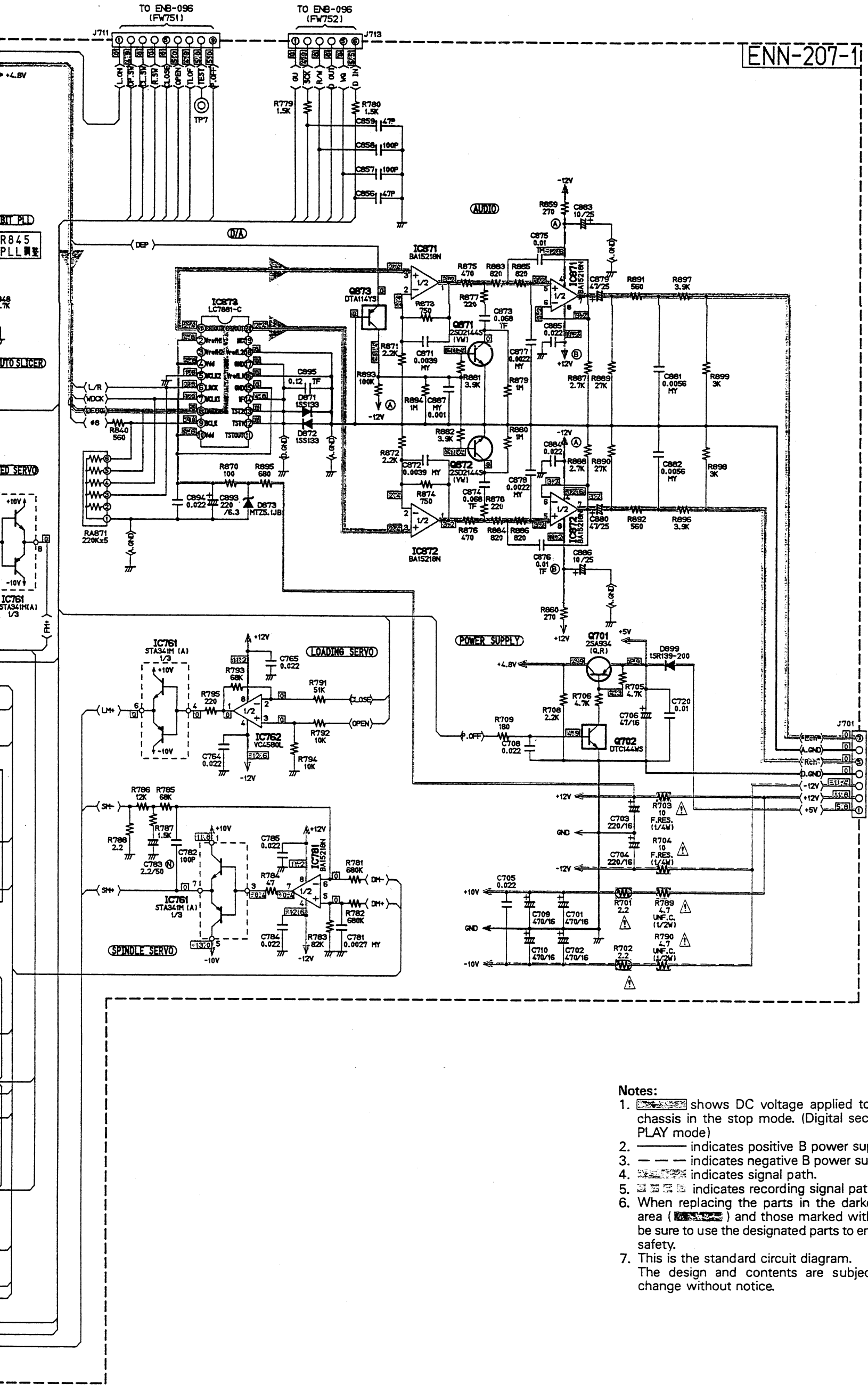

Notes:

1. ▨ shows DC voltage applied to the chassis in the stop mode. (Digital section: PLAY mode)
2. ——— indicates positive B power supply.
3. — — — indicates negative B power supply.
4. ▨ indicates signal path.
5. ▨ indicates recording signal path.
6. When replacing the parts in the darkened area (▨) and those marked with ⚠, be sure to use the designated parts to ensure safety.
7. This is the standard circuit diagram. The design and contents are subject to change without notice.

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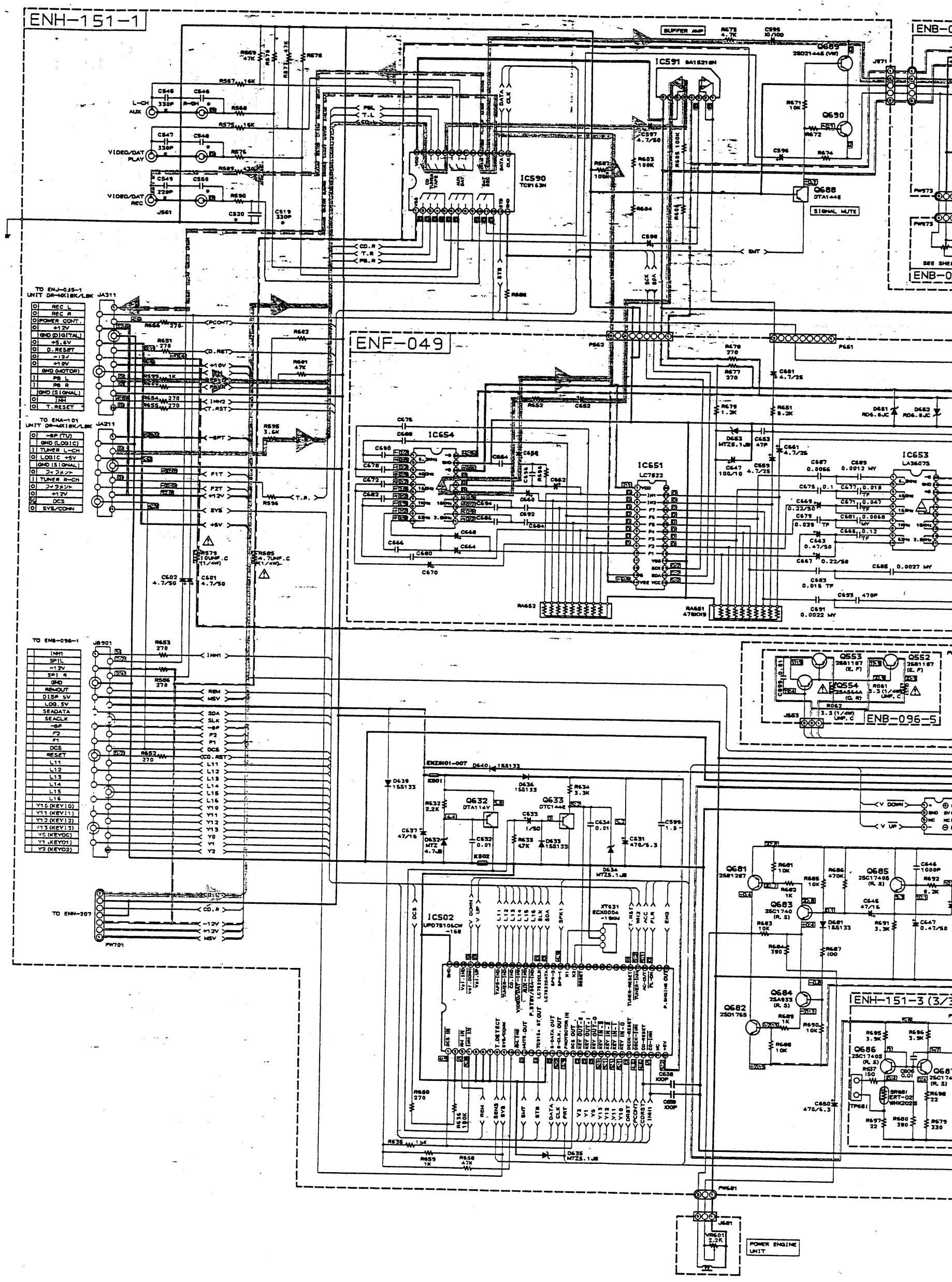
■ System Control & Power Amplifire Section



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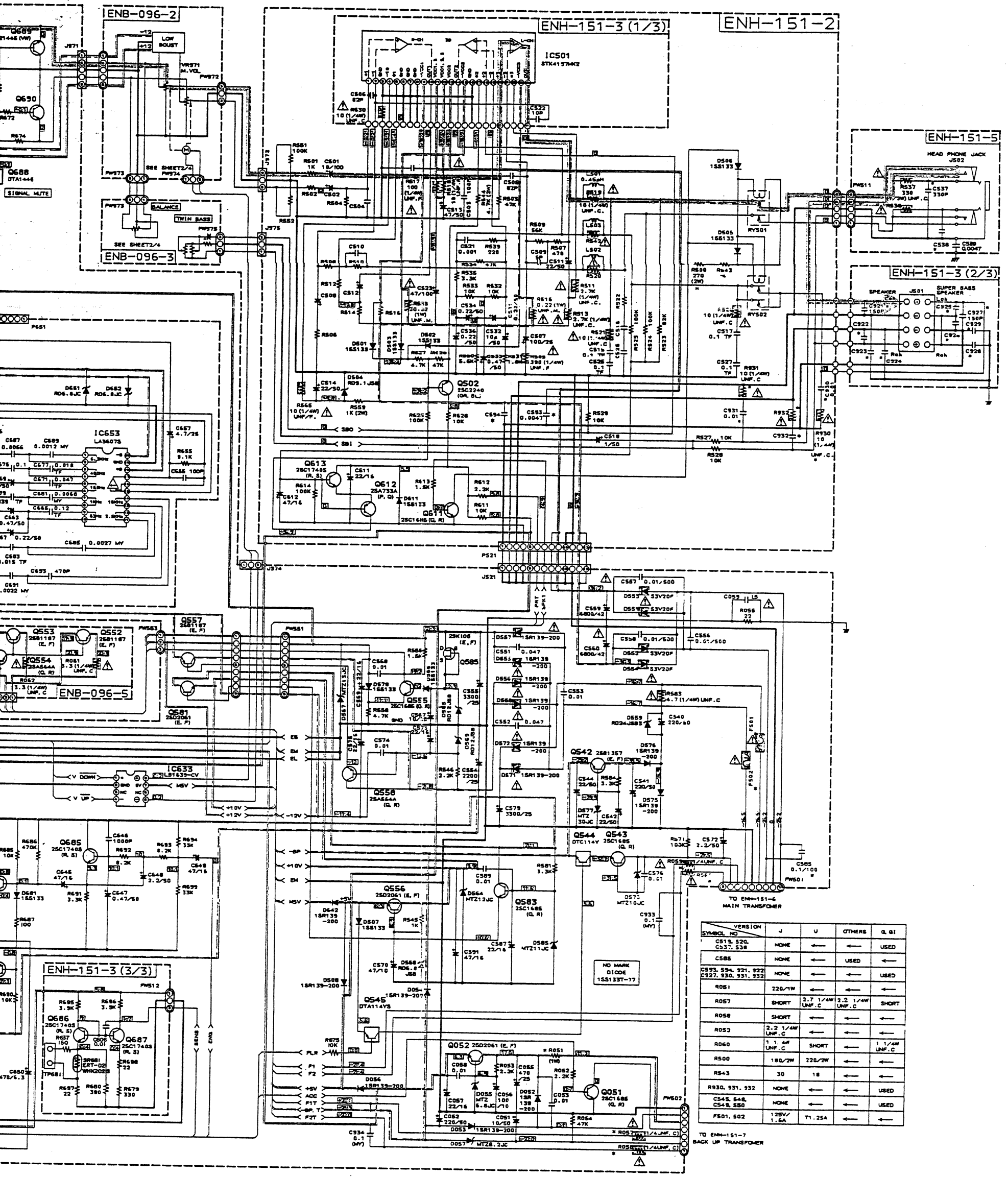

SYMBOL NO / VERSION	J	U	OTHERS	G, GI
C513, 520, C537, 538	NONE	←	←	USED
C586	NONE	←	USED	←
C593, 594, 921, 922, C927, 930, 931, 932	NONE	←	←	USED
R051	220/1W	←	←	←
R057	SHORT	2.7 1/4W UNF.C	2.2 1/4W UNF.C	SHORT
R058	SHORT	←	←	←
R059	2.2 1/4W UNF.C	←	←	←
R060	1 1.4W UNF.C	SHORT	←	1 1/4W UNF.C
R500	180/2W	220/2W	←	←
RS43	30	18	←	←
R930, 931, 932	NONE	←	←	USED
C545, 548, C549, 550	NONE	←	←	USED
FS01, 502	125V/ 1.6A	T1.25A	←	←

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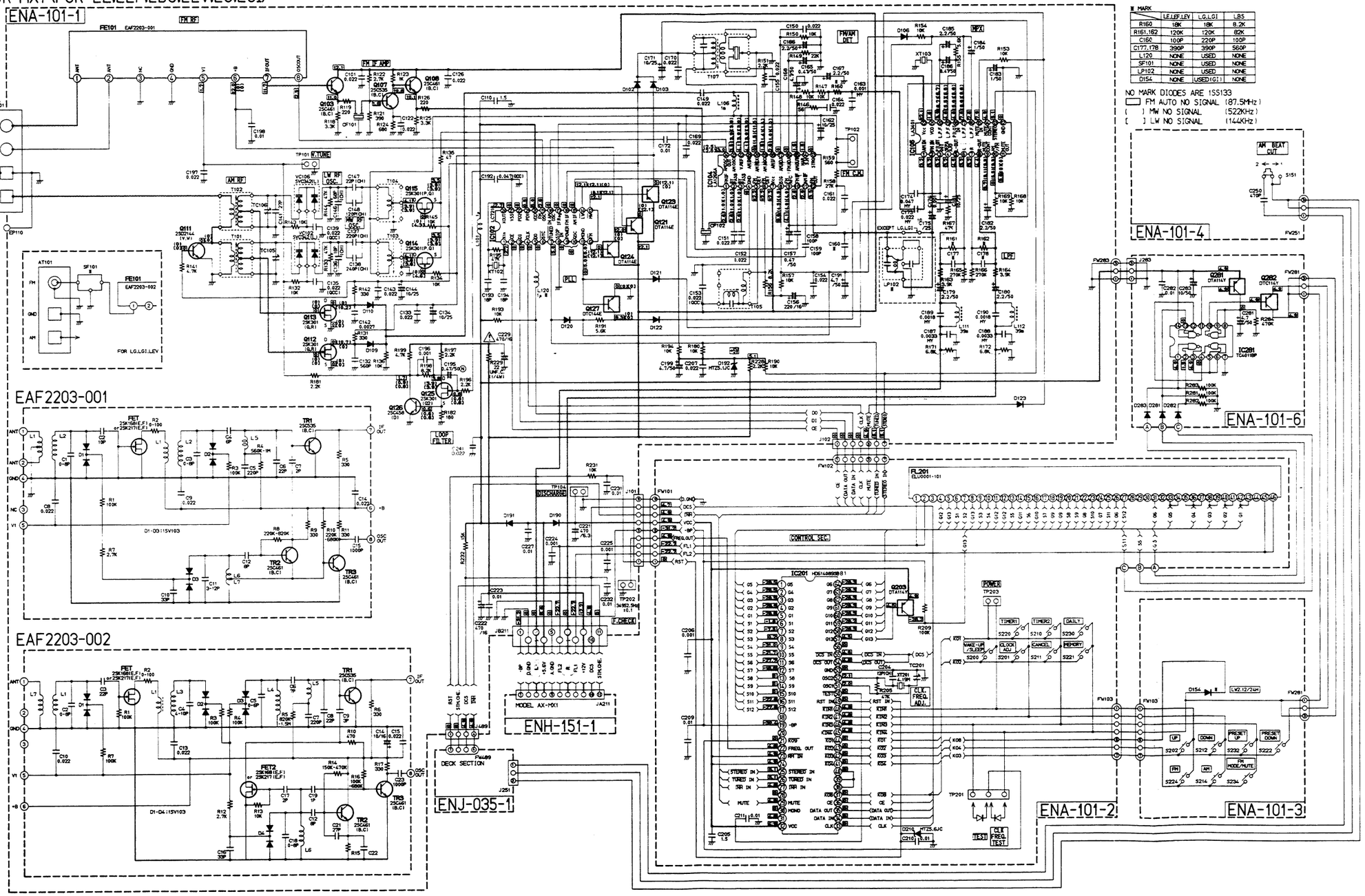
■ Tuner Section (2)



Notes:

1. ▬▬ Shows DC voltage to the chassis with no signal input.
2. —— indicates +B power supply.
3. ------- indicates −B power supply.
4. ▬▬ indicates signal path.
5. When replacing the parts in the darkened are (▬▬) and those marked with ⚠, be sure to use the designated parts to ensure safety.
6. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

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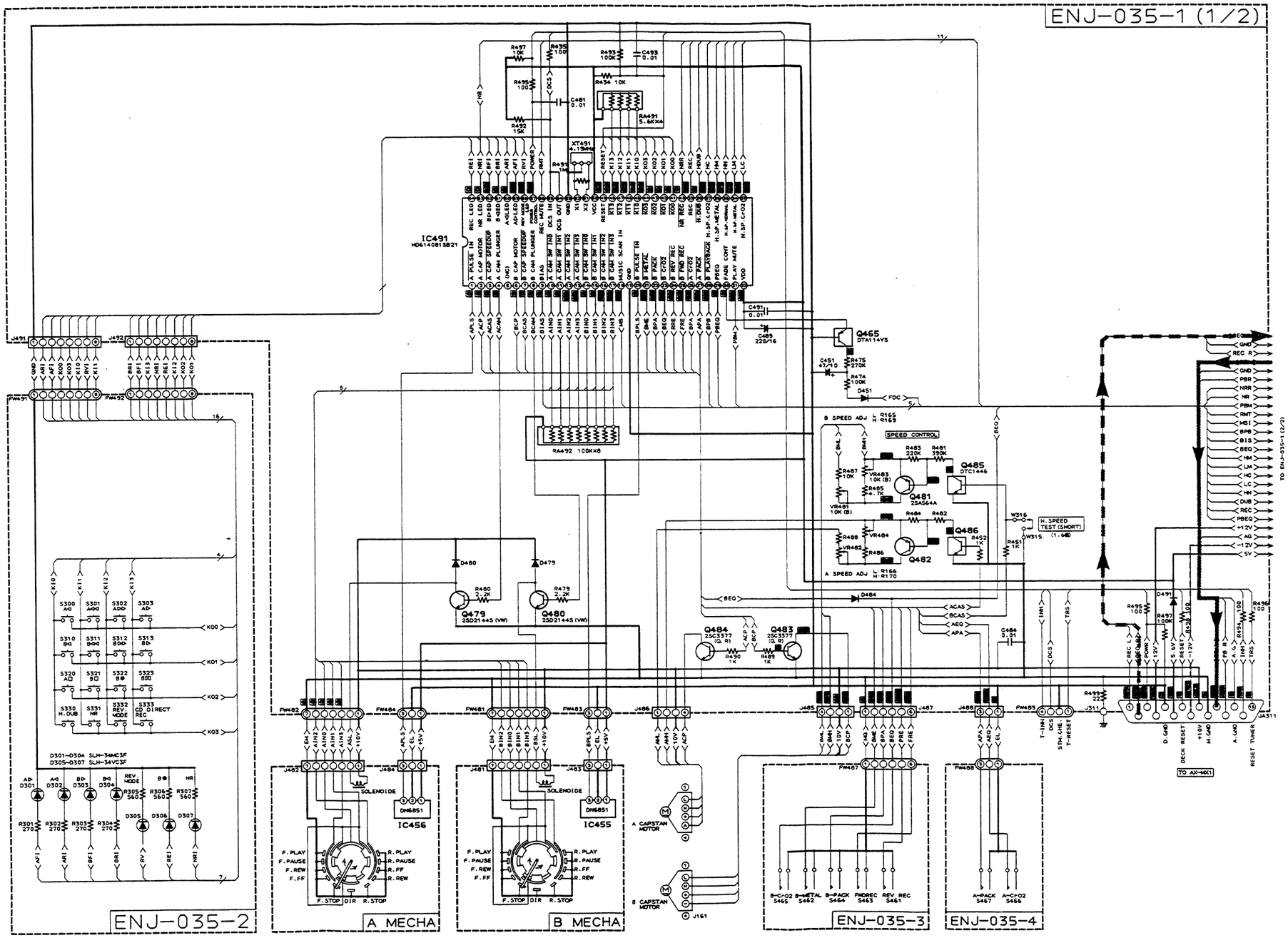
DR-MX1BK	DR-MX1BK
DR-MX1LBK	DR-MX1LBK

■ Mechanism Control Section



Notes:

1. ■ Shows DC voltage to the chassis with no signal input.
2. —— indicates +B power supply.
3. ------- indicates −B power supply.
4. ■ indicates signal path.
5. When replacing the parts in the darkened are (■) and those marked with ⚠, be sure to use the designated parts to ensure safety.
6. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

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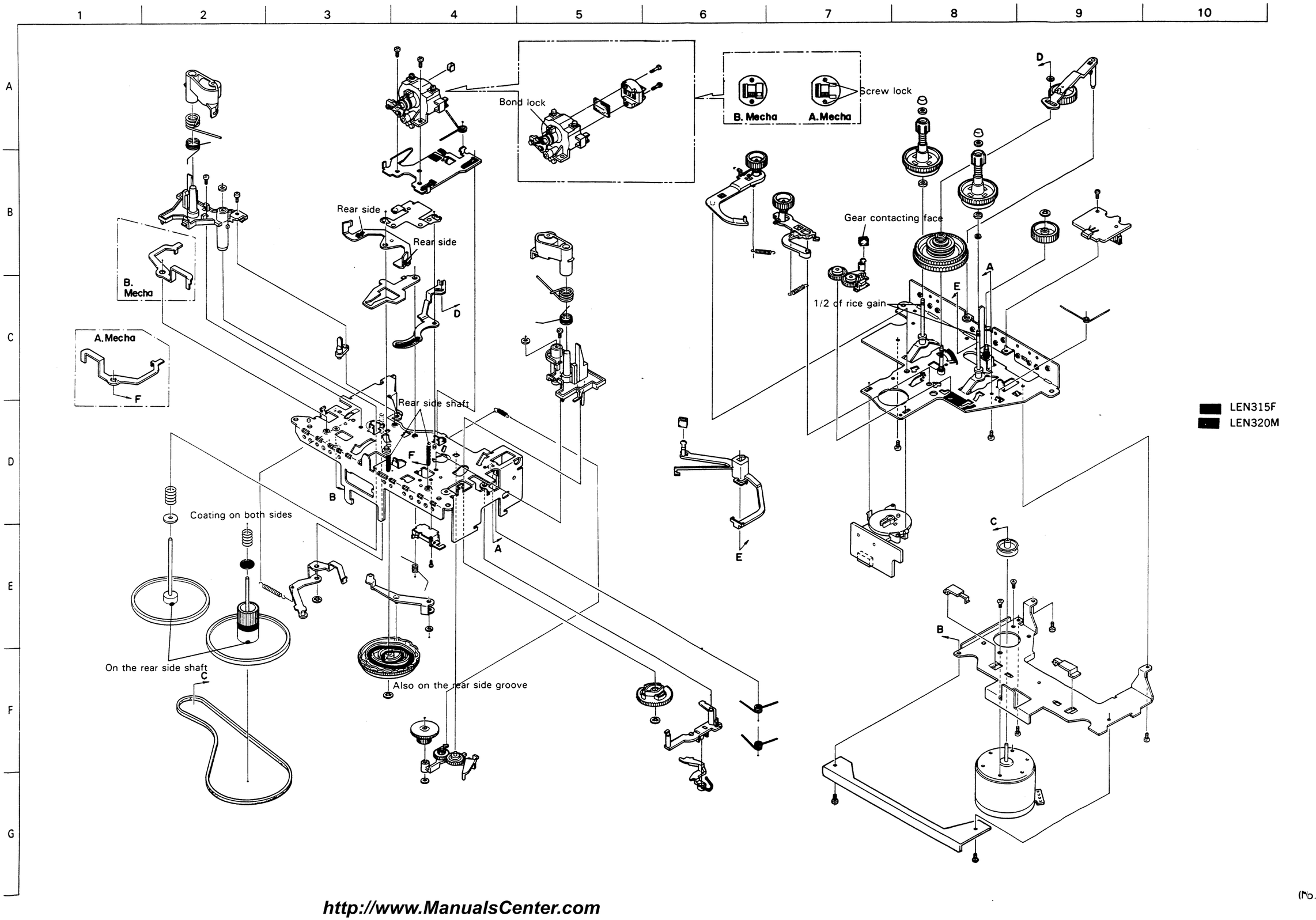
Exploded View of Cassette Mechanism and Grease Coating Position



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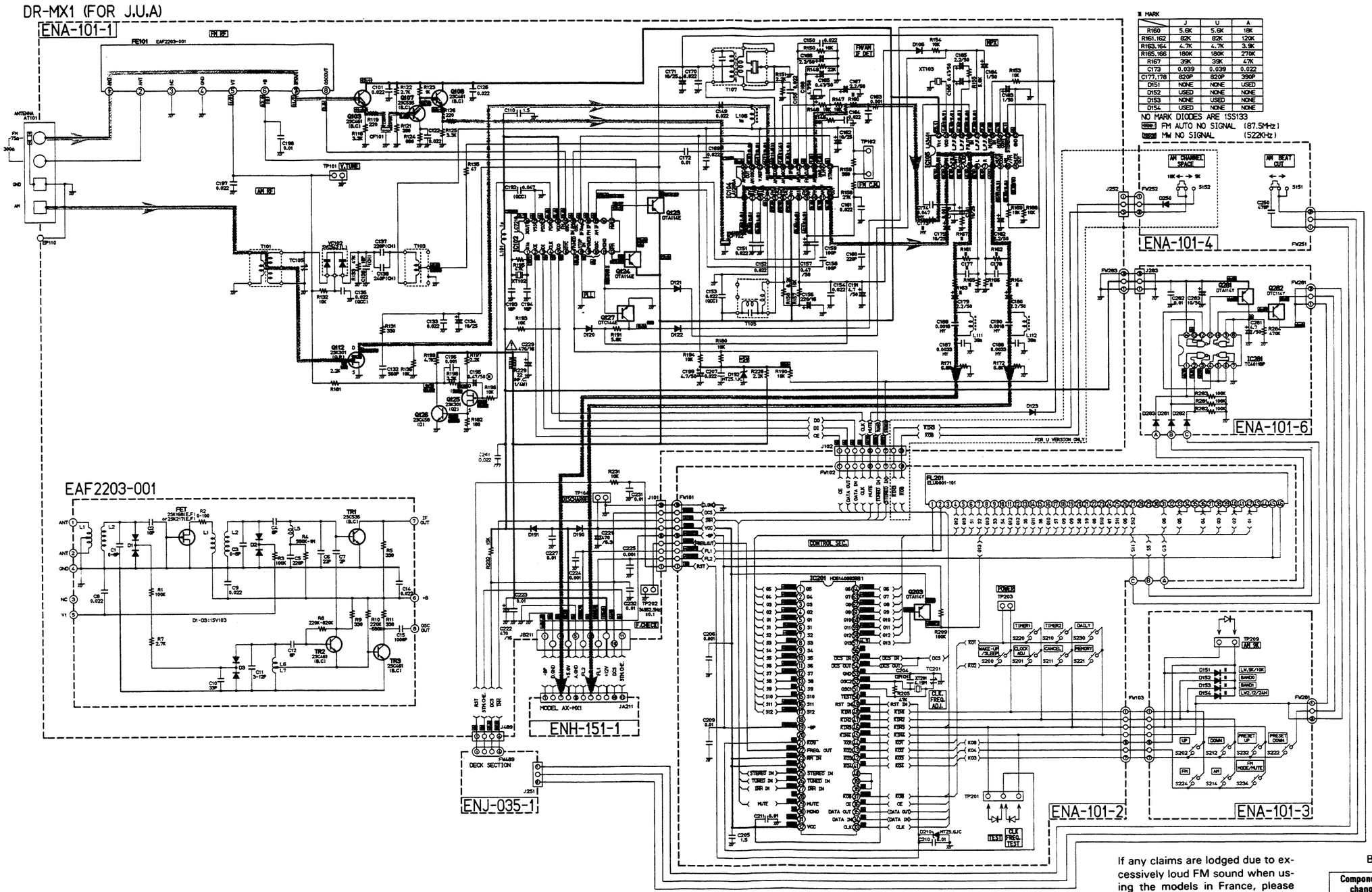
DR-MX1BK DR-MX1LBK	DR-MX1BK DR-MX1LBK

Schematic Diagrams

■ Tuner Section (1)



※ MARK	J	U	A
R160	5.6K	5.6K	18K
R161,162	82K	82K	120K
R163,164	4.7K	4.7K	3.9K
R165,166	180K	180K	270K
R167	39K	39K	47K
C173	0.039	0.039	0.022
C177,178	820P	820P	390P
D151	NONE	NONE	USED
D152	USED	NONE	NONE
D153	NONE	USED	NONE
D154	USED	NONE	NONE

Notes:

1. ■■■ Shows DC voltage to the chassis with no signal input.
2. —— indicates +B power supply.
3. ------ indicates −B power supply.
4. ■■■ indicates signal path.
5. When replacing the parts in the darkened are (■■■) and those marked with ⚠, be sure to use the designated parts to ensure safety.
6. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

If any claims are lodged due to excessively loud FM sound when using the models in France, please make changes in the following constants:

Board name: ENA-101

Components change	Before change	After change
R160	18K	8.2K
R161	120K	82K
R162	120K	82K
C177	390P	560P
C178	390P	560P

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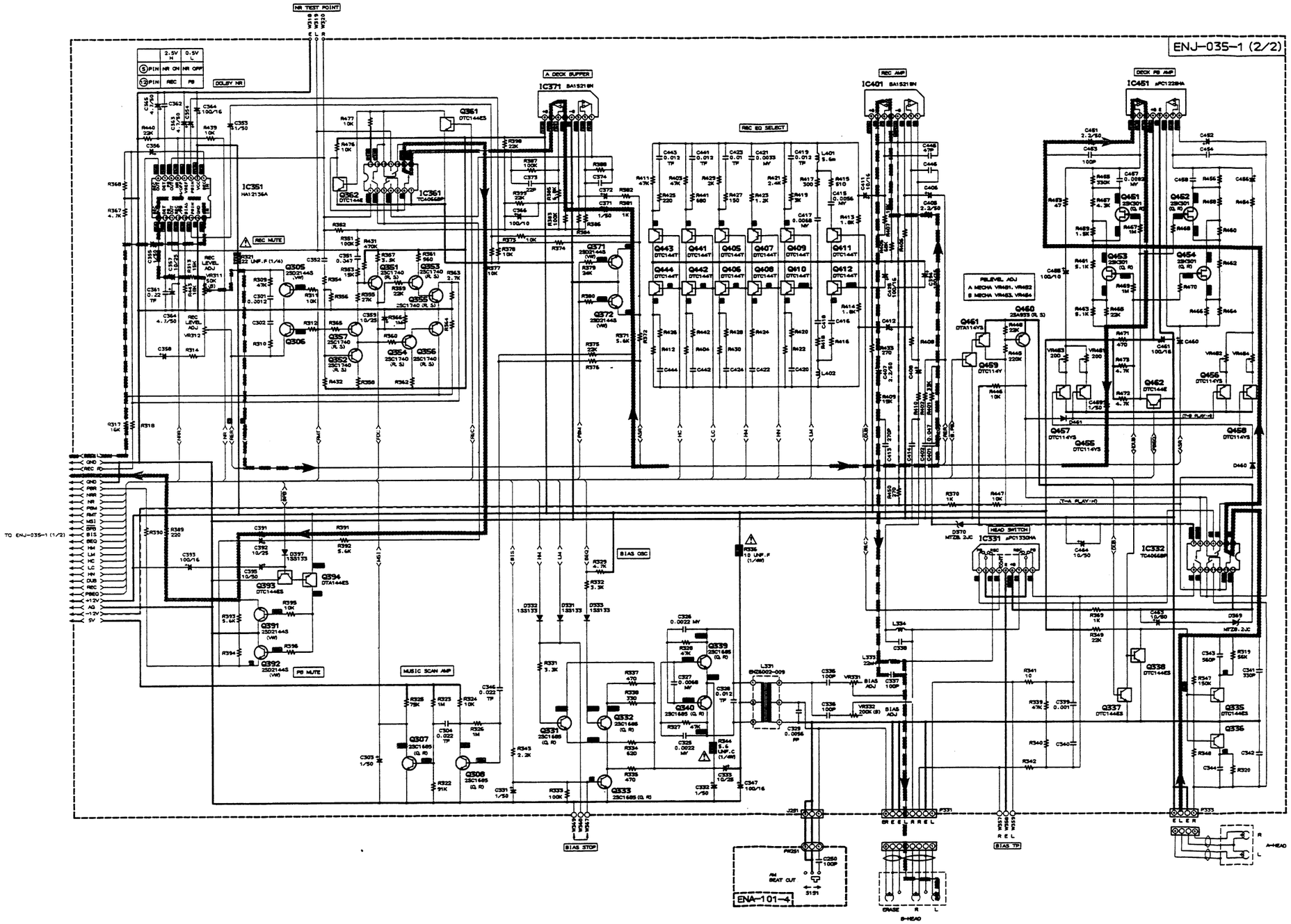
■ Cassette Amp. Section



Notes:

1. ■ Shows DC voltage to the chassis with no signal input.
2. —— indicates +B power supply.
3. ------- indicates −B power supply.
4. ■ indicates signal path.
5. When replacing the parts in the darkened are (■) and those marked with ⚠, be sure to use the designated parts to ensure safety.
6. This is the standard circuit diagram.
   The design and contents are subject to change without notice.

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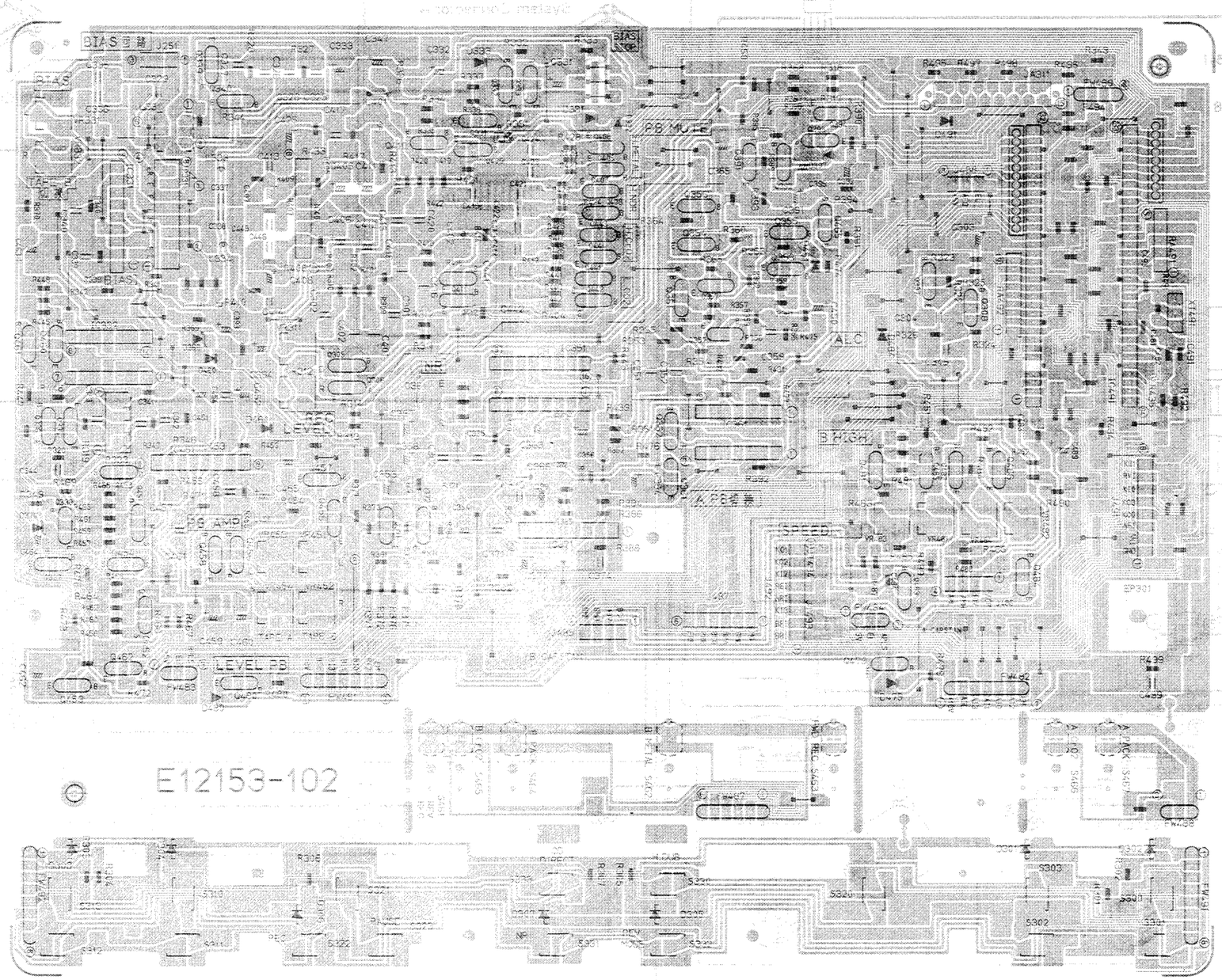
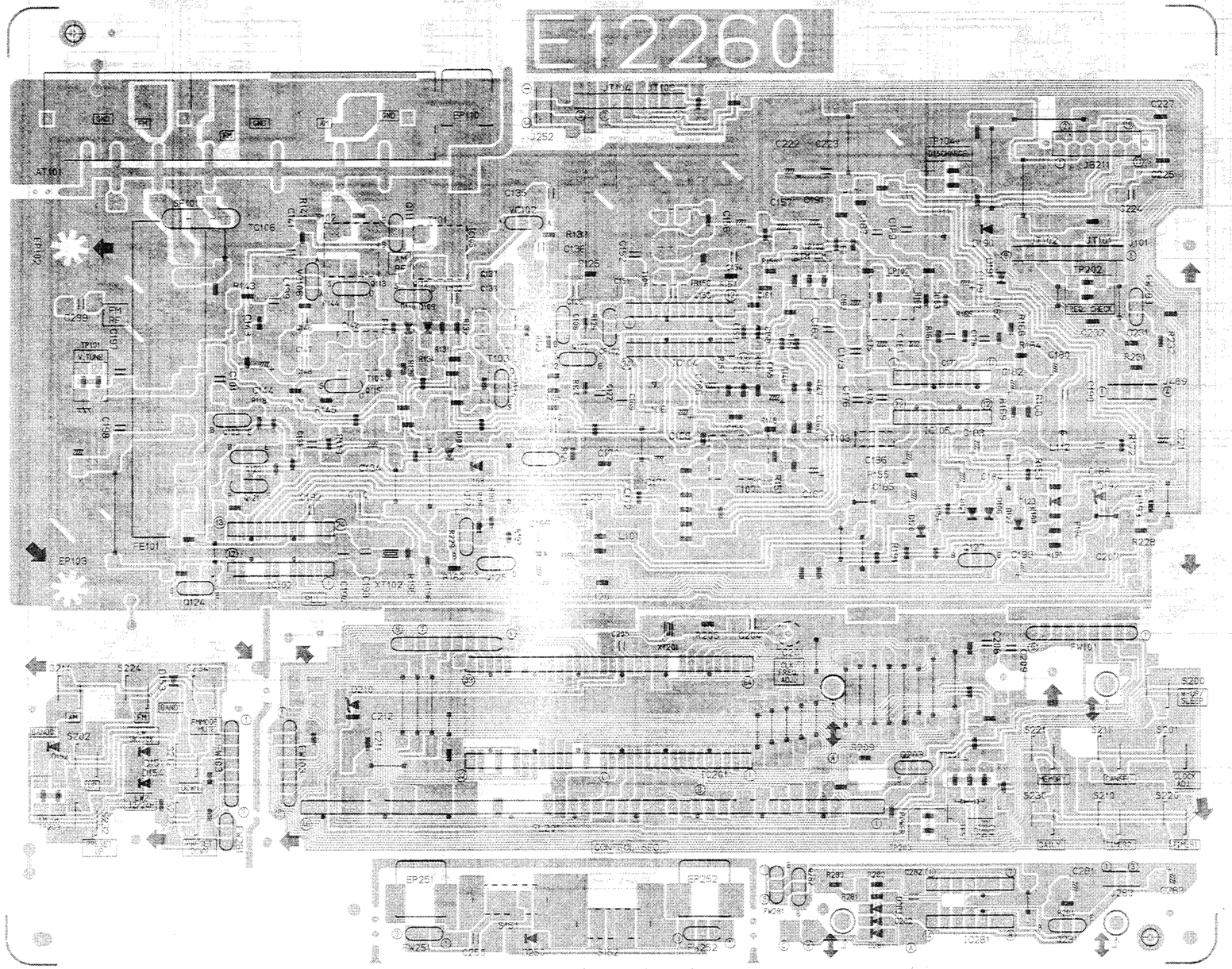
■ Cassette P.C. Board (ENJ-035)



DR-MX1BK DR-MX1LBK	DR-MX1BK DR-MX1LBK

Printed Circuit Boards

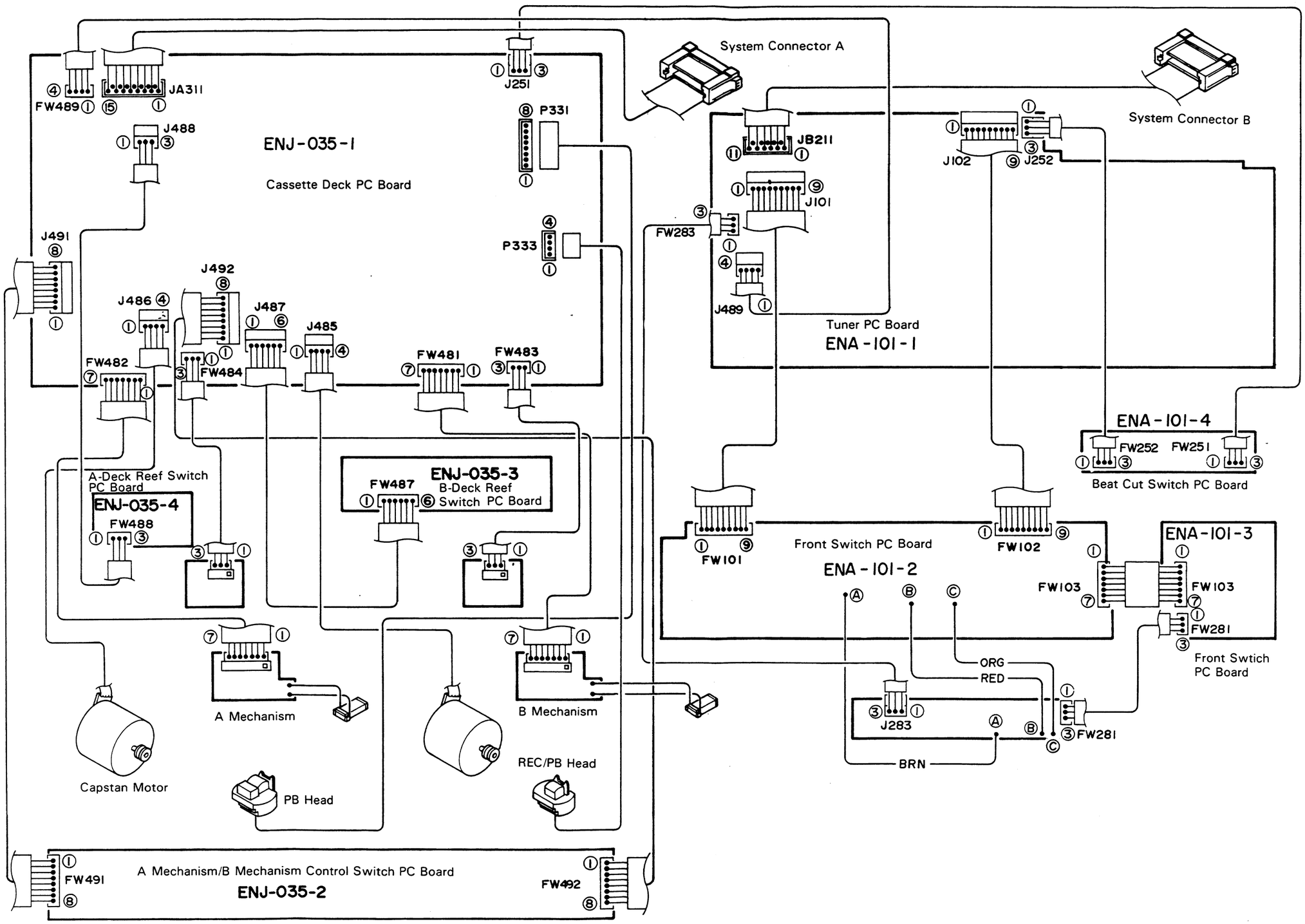
■ Tuner P.C. Board (ENA-101)



(No. 20180)　　(No. 20180)

DR-MX1BK DR-MX1LBK	DR-MX1BK DR-MX1LBK

Connection Diagrams



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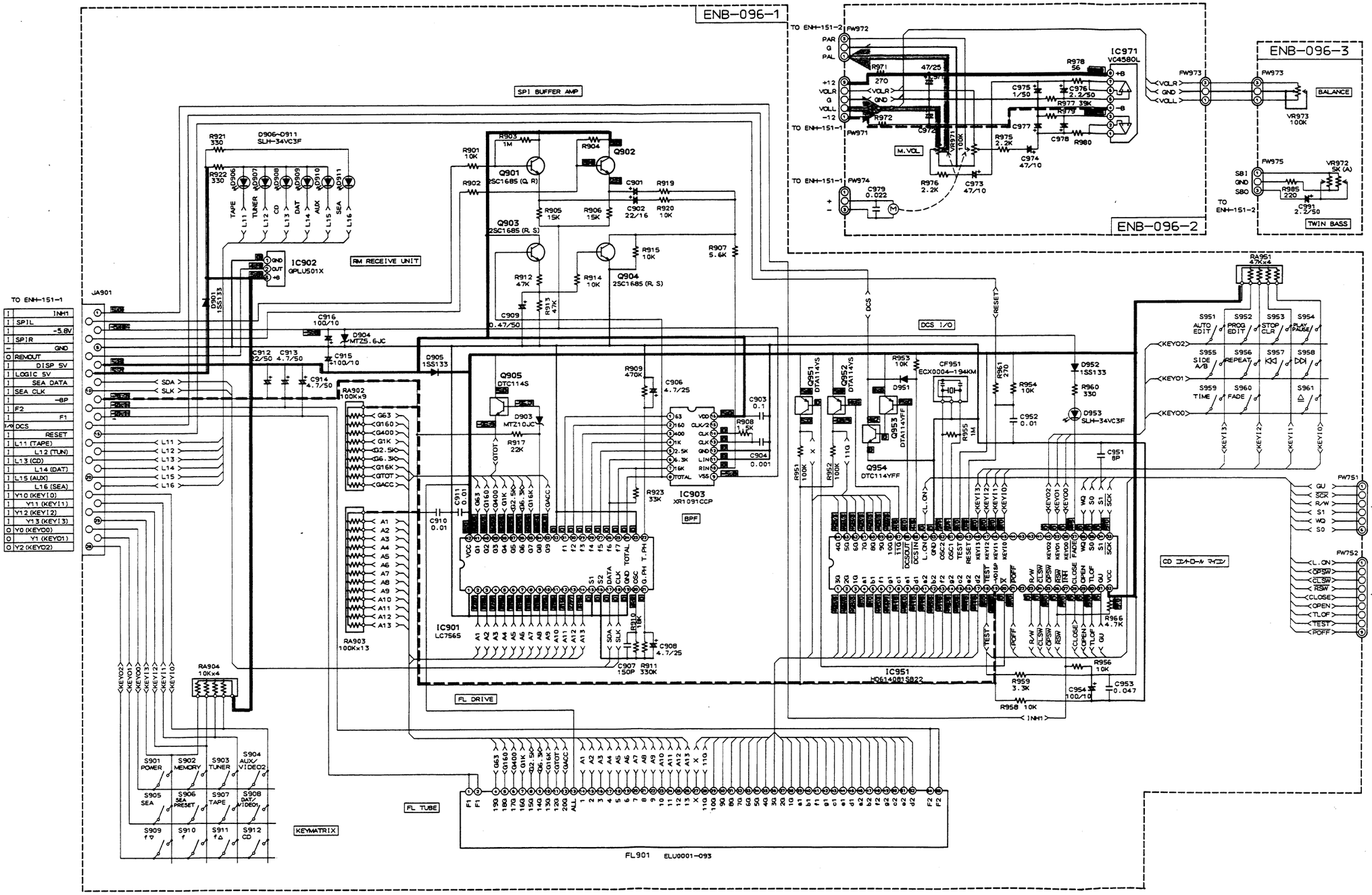
■ FL Display & CD Control Section



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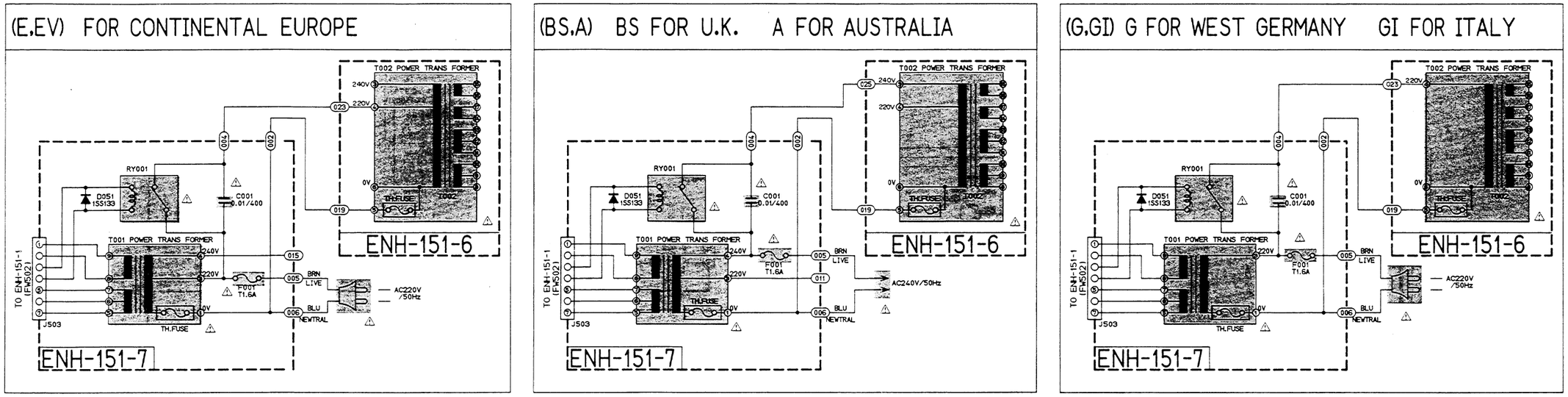
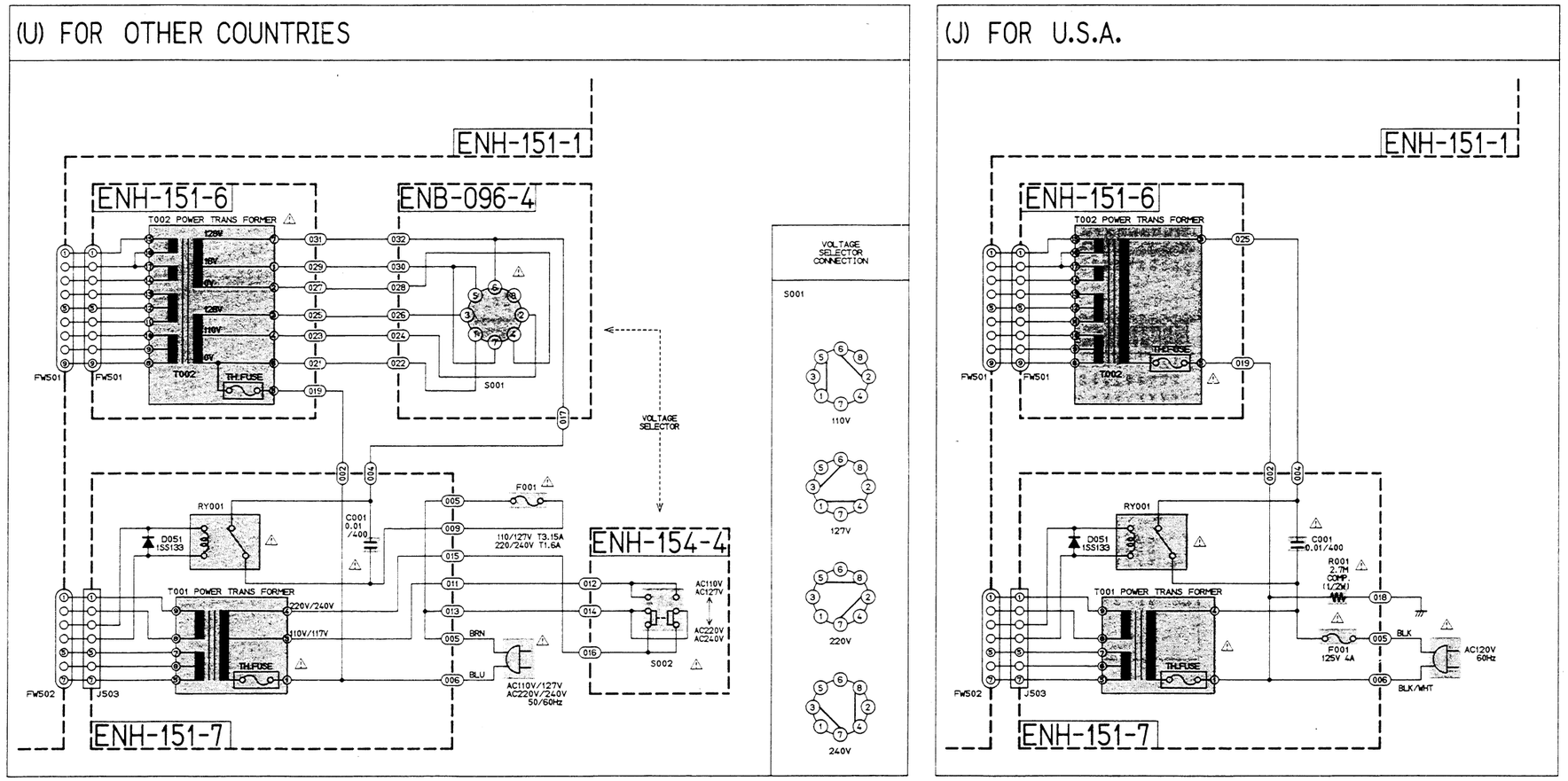
AX-MX1BK	AX-MX1BK
AX-MX1LBK	AX-MX1LBK

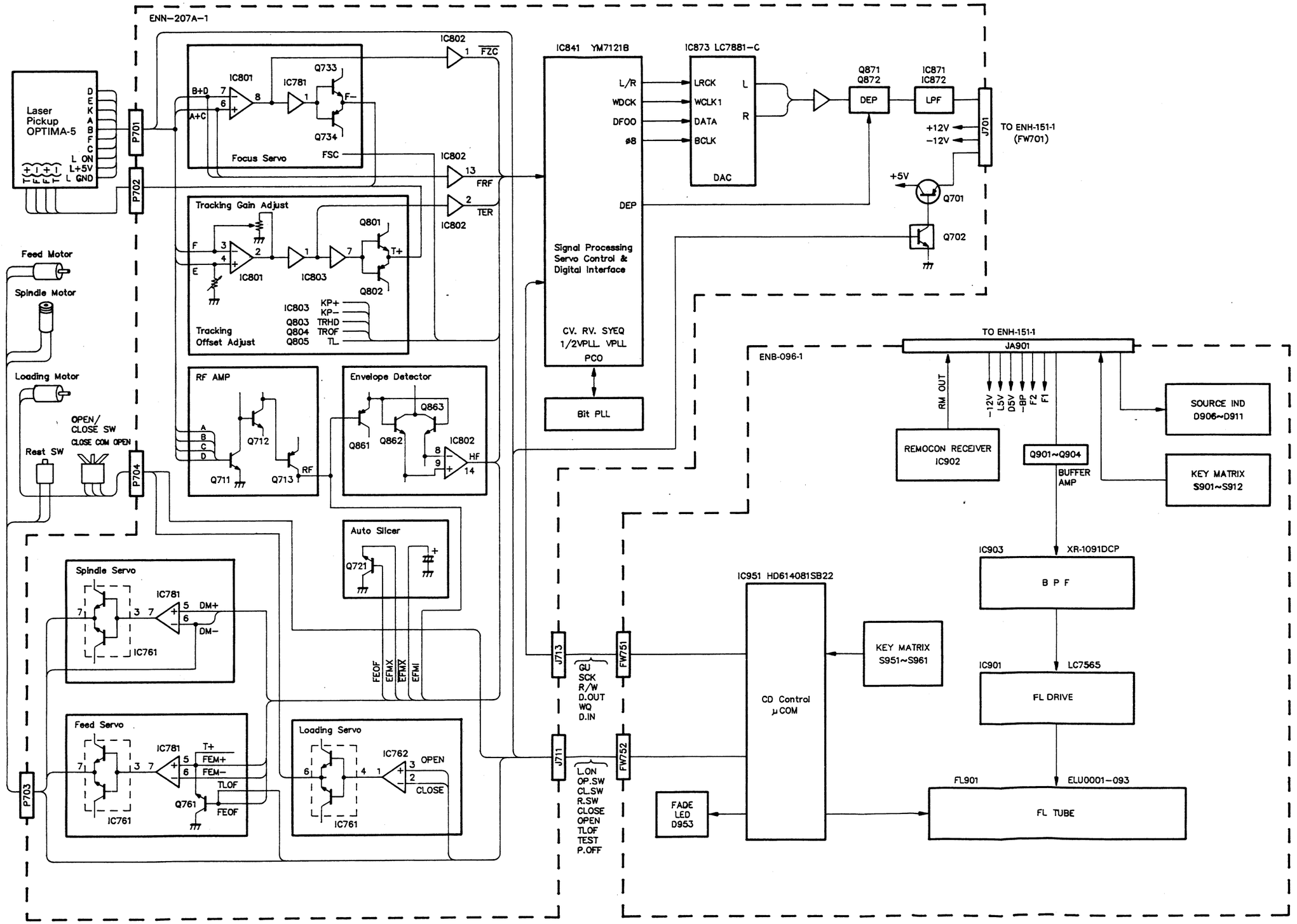
■ Power Primary Section





(No. 20179) (No. 20179)

Block Diagram



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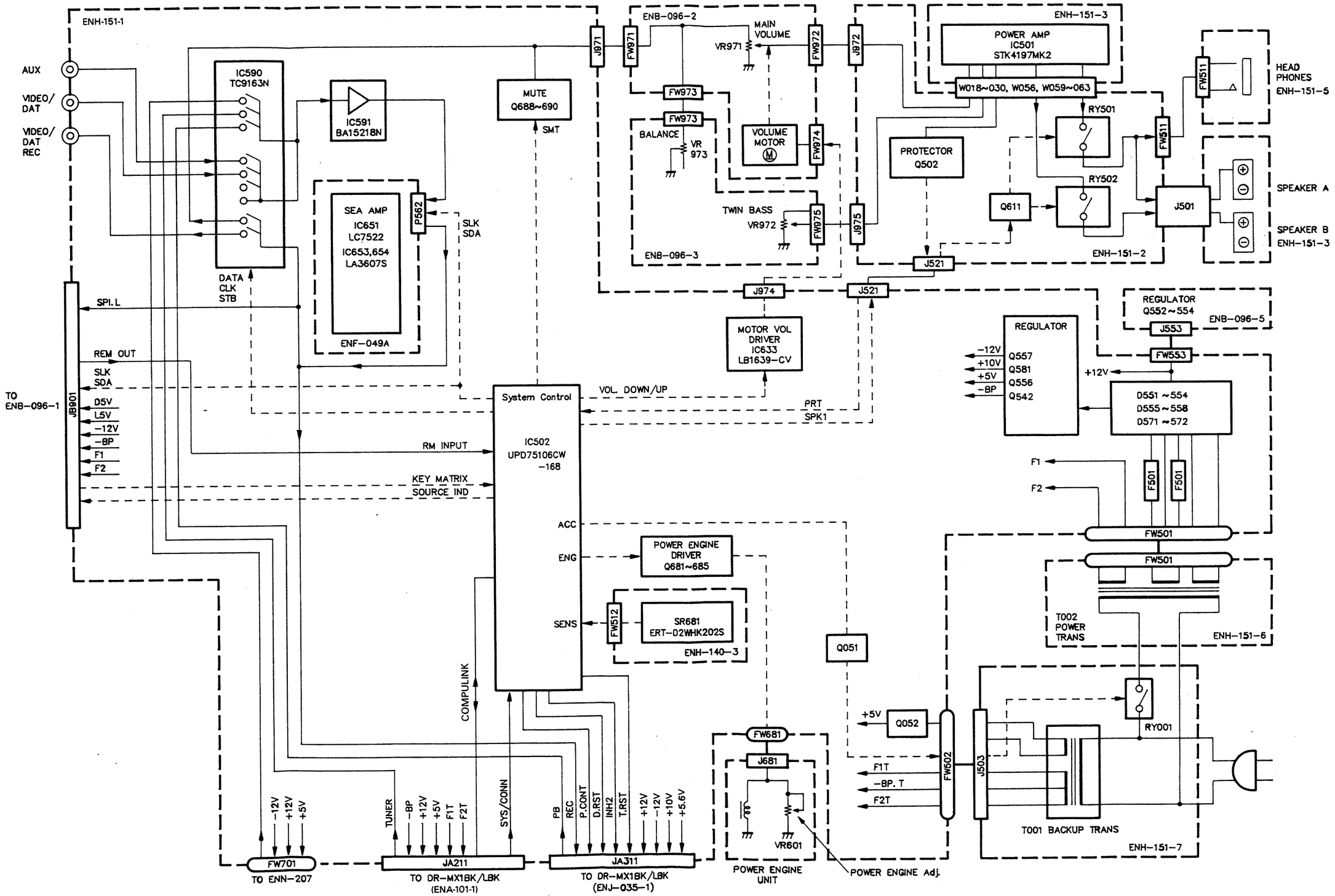

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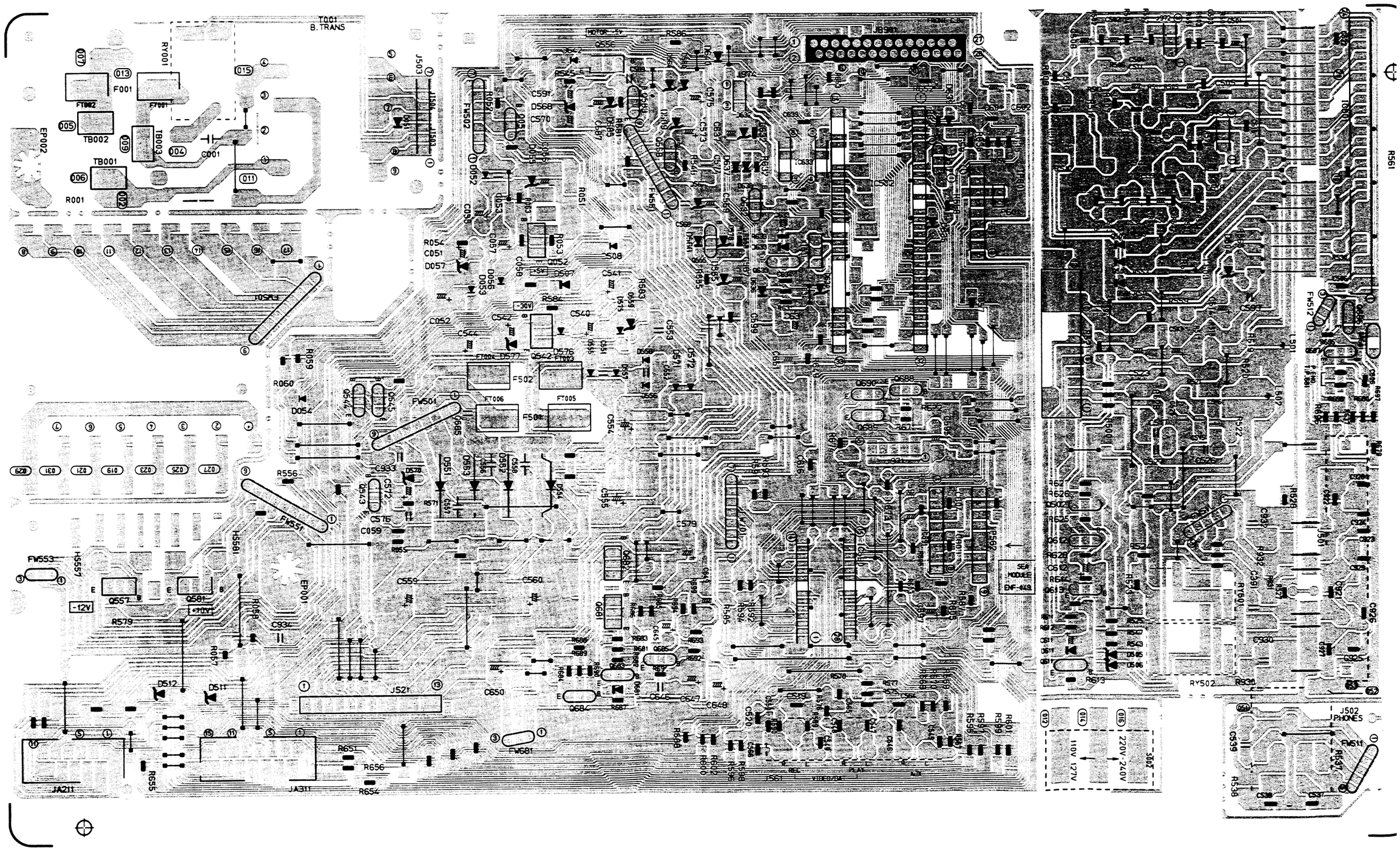
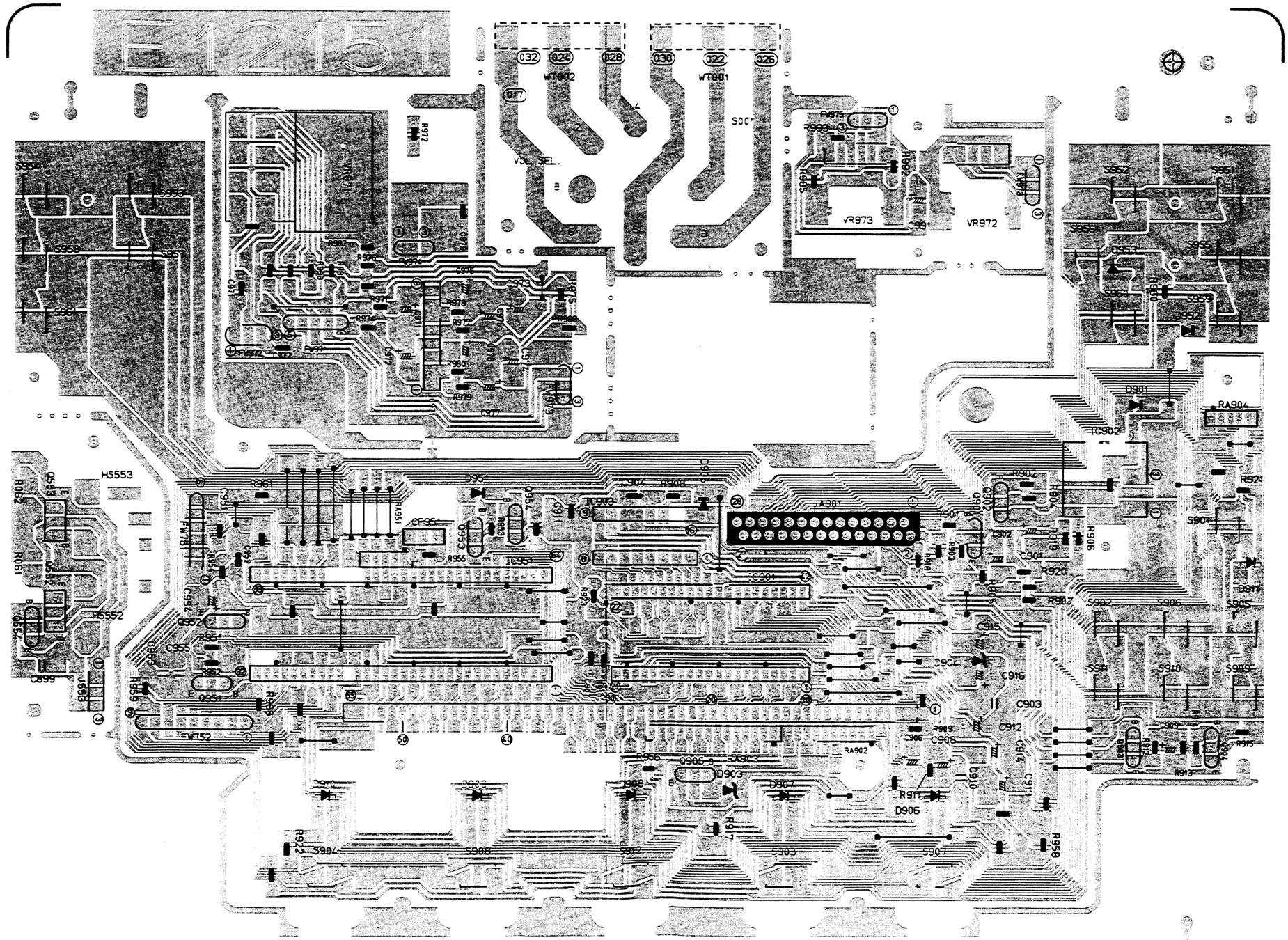
Printed Circuit Board Ass'y

■ Main Amplifire P.C. Board (ENH-151)

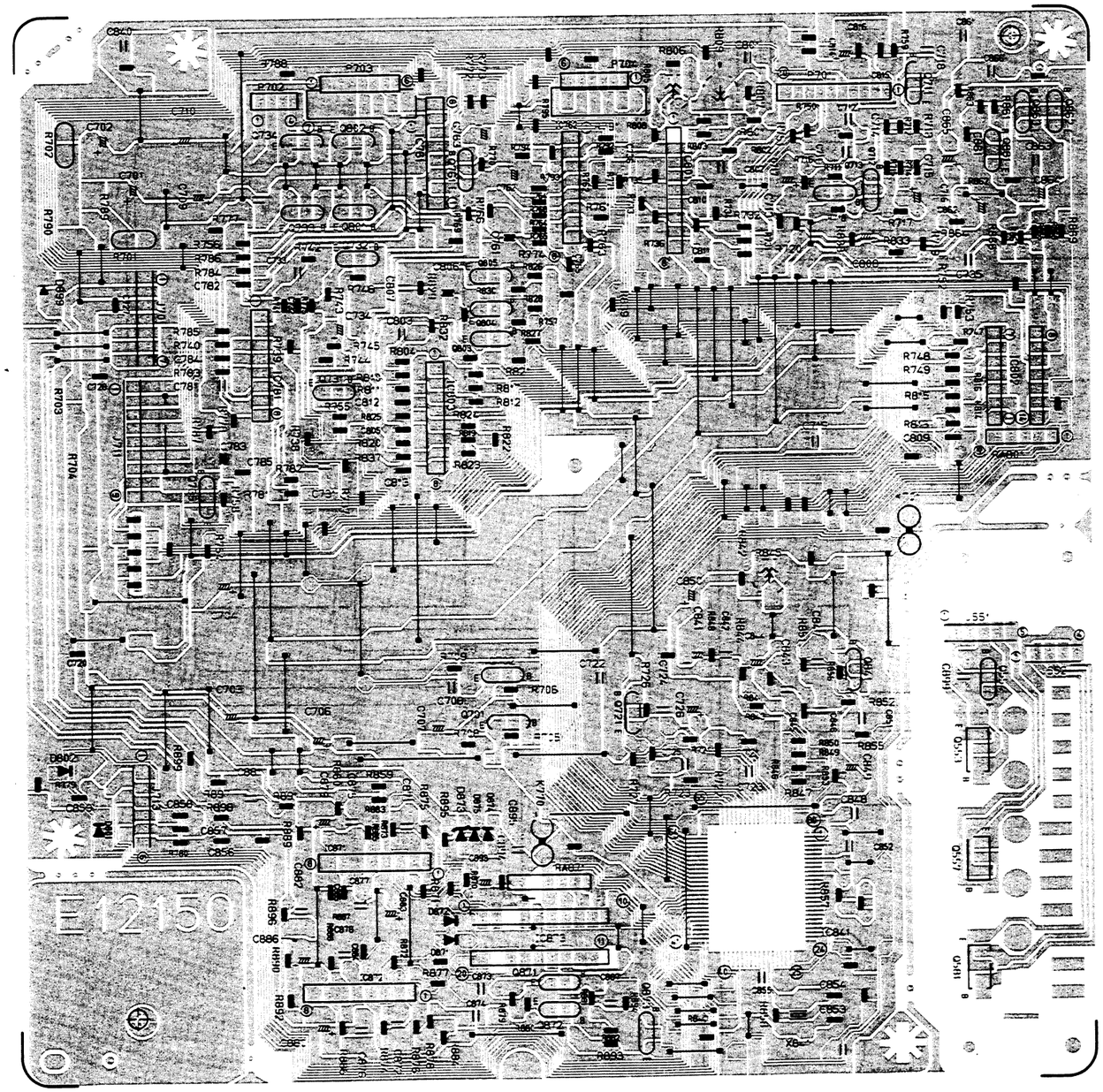


AX-MX1BK
AX-MX1LBK

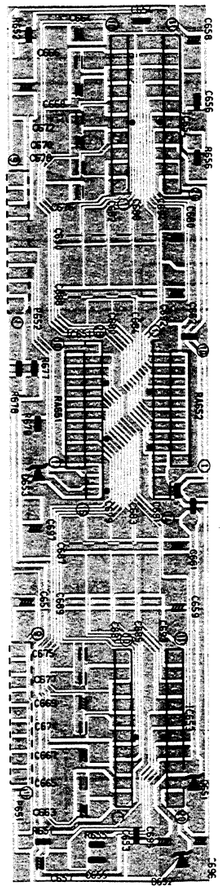
■ Front P.C. Board (ENB-096)



■CD P.C. Board (ENN-207)



■SEA Module P.C. Board (ENF-049)



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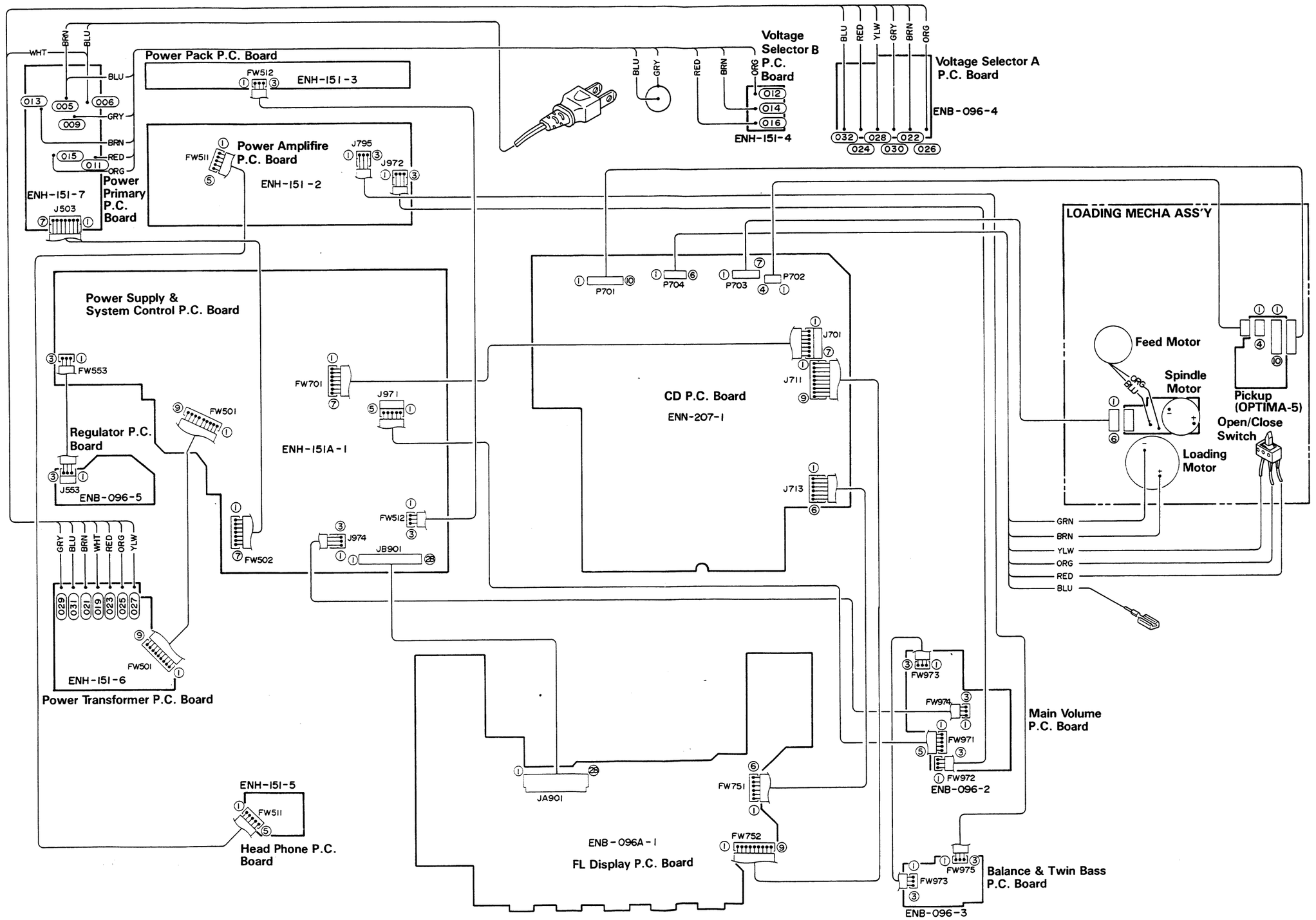
AX-MX1BK AX-MX1LBK	AX-MX1BK AX-MX1LBK

Connection Diagram



(No. 20179) (No. 20179)

PARTS LIST

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Printed Circuit Board Ass'y and Parts List 2-11
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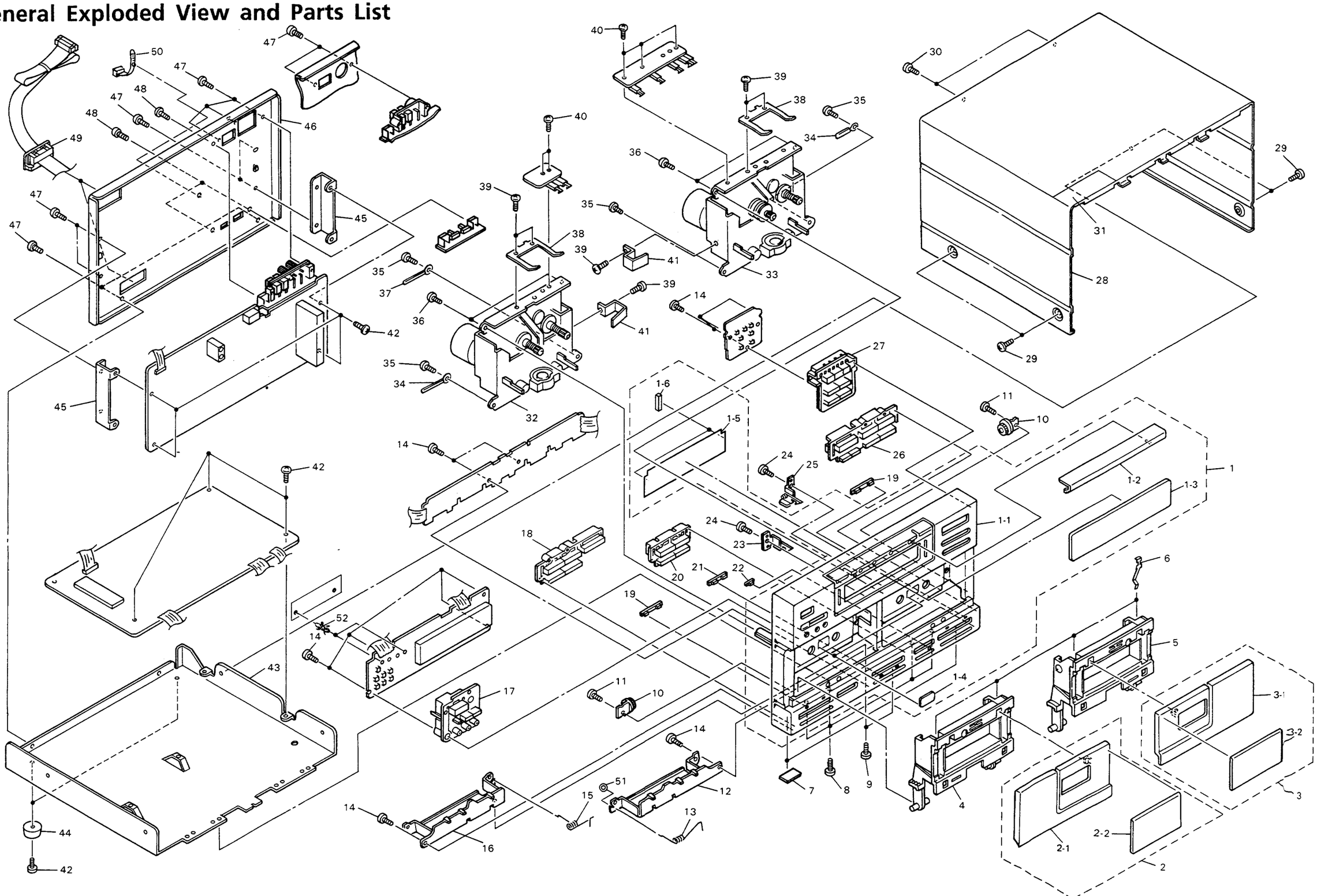
■ ENA-101 ☐ Tuner PC Board Ass'y 2-15

DR-MX1BK DR-MX1LBK	DR-MX1BK DR-MX1LBK

General Exploded View and Parts List



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■Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-DRMX1BKE(S)	Front Panel Ass'y	1		
	1-1	E12160-006	Front Panel	1		
	1-2	E306526-002	Tuner Ornament	1		
	1-3	E306528-002	Tuner Window	1		
	1-4	E69777-003	Reaf Plate	2		
	1-5	E75960-001	FL Screen	1		
	1-6	EXO020003N30S	Felt Spacer	2		
	2	E306541-002SA	Cassette Lid Ass'y	1	A	
	2-1	E306541-002	Cassette Lid	1	A	
	2-2	E306545-003	Cassette Window	1	A	
	3	E306543-002SA	Cassette Lid Ass'y	1	B	
	3-1	E306543-002	Cassette Lid	1	B	
	3-2	E306547-003	Cassette Window	1	B	
	4	E26582-003	Cassette Holder	1	A	
	5	E26583-003	Cassette Holder	1	B	
	6	VYK4180-001	Holder Spring	4		
	7	E75896-001	Felt Spacer	2		
	8	SDST3006M	Screw	4		
	9	SDST3006Z	Screw	2		
	10	E305654-003	Damper	2		
	11	SBSF3010Z	Screw	2		
	12	E306581-002	Holder Bracket	1	Right	
	13	E74932-002	Holder Spring	1	Right	
	14	SDSF2608Z	Screw	11		
	15	E74931-002	Holder Spring	1	Left	
	16	E306540-002	Holder Bracket	1	Left	
	17	E306532-001	Push Button	1	Timer	
	18	E306534-001	Push Button	1	Play A	
	19	E75734-001	Indicator	2	Play A , B	
	20	E306538-002	Push Button	1	Dolby	
	21	E75735-001	Indicator	1	Dolby	
	22	E75736-001	Indicator	1	Rec	
	23	E75396-001	Lock Cam	1		
	24	SBSF3006M	Screw	2		
	25	E75397-002	Lock Cam	1		
	26	E306536-001	Push Button	1	Play B	
	27	E306530-002	Push Button	1	Band	J , U , A
		E306530-003	Push Button	1	Band	Except J , U , A
	28	E26586-006	Metal Cover	1		
	29	SDSG3006M	Screw	4		
	30	SDSG3010M	Screw	2		
	31	E67000-014	Caution Label	1		
	32	———	Cassette Mechanism Ass'y (A)	1	See page 2-7	
	33	———	Cassette Mechanism Ass'y (B)	1	See page 2-7	
	34	E72018-001	Wire Clamp	2		
	35	SBST3006C	Screw	4		
	36	SBSF3008C	Screw	4		
	37	PU49485-3	Wire Clamp	1		
	38	VYK4279-003	Pack Spring	2		
	39	SDST2604Z	Screw	6		
	40	VKZ4601-001	Screw	5		
	41	E75216-004	Spring	2		
	42	SBSG3008N	Screw	9		
	43	E12162-001	Chassis Base	1		
	44	E47227-029	Foot	2		
	45	E305919-003	Circuit Board Bracket	2		
	46	E26711-001	Rear Panel	1		J
		E26711-002	Rear Panel	1		U
		E26711-003	Rear Panel	1		A
		E26711-004	Rear Panel	1		LE , LEF
		E26711-005	Rear Panel	1		LG , LGI , LEV
		E26711-006	Rear Panel	1		LBS
	47	E73273-006	Special Screw	9		Except LG , LGI , LEV
		E73273-006	Special Screw	8		LG , LGI , LEV
	48	SBST3008M	Screw	3		
	49	E305920-001	Cord Holder	2		
	50	E304880-001	Cord Holder	1		
	51	E73967-007	Spacer	1		
	52	E406070-001	Fastener	2		
	—	E61029-005	Number Label	1		

⚠: Safety Parts

The Marks Designated Areas

A·····Australia
J·····the U.S.A.
U·····Other Countries
LG·····West Germany (with LW)
LBS·····the U.K. (with LW)
LE , LEF·····Continental Euorpe
LEV·····Switzerland (with LW)
LGI·····Iraty (with LW)
No mark indicates all areas.

DR-MX1BK DR-MX1LBK	DR-MX1BK DR-MX1LBK

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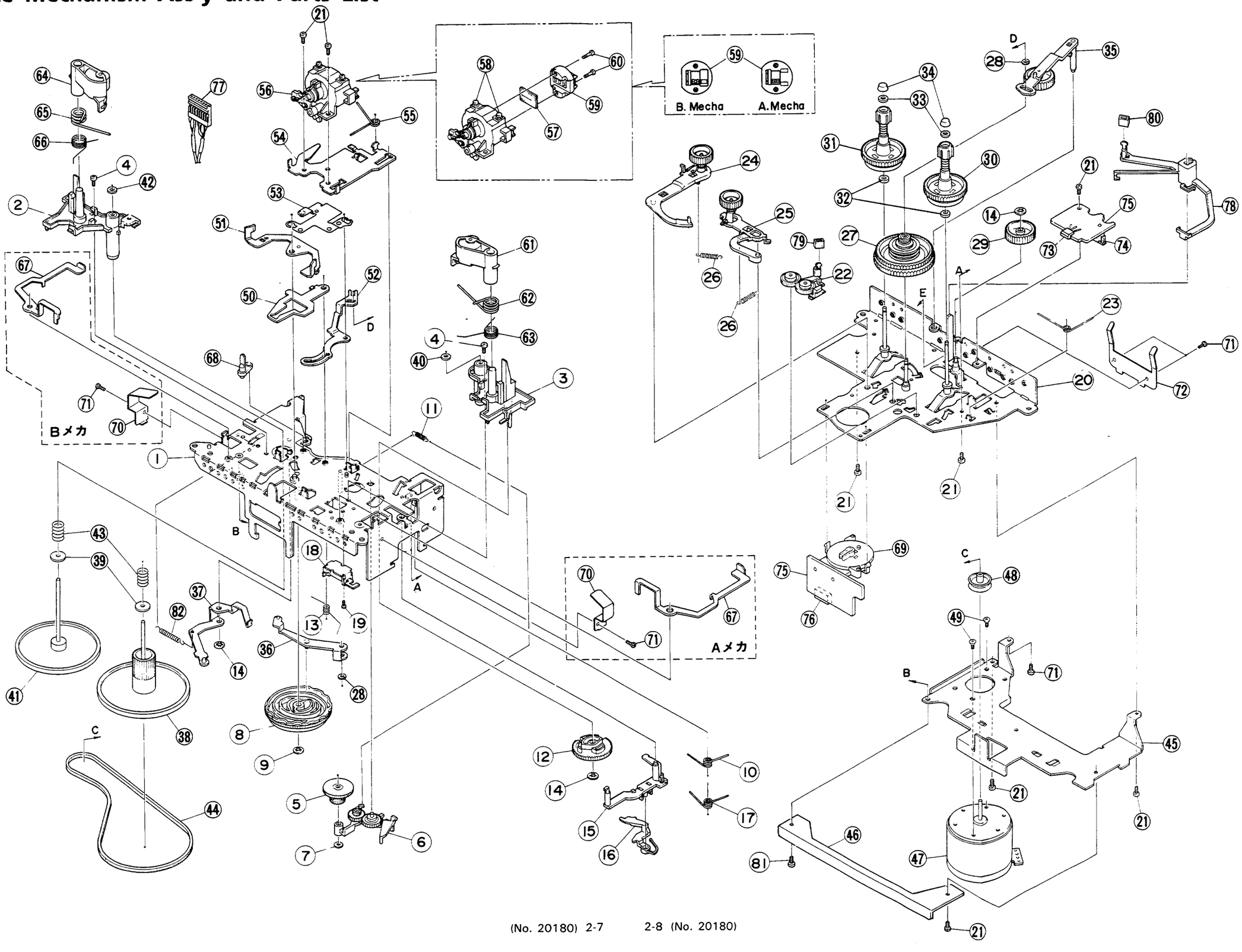
Cassette Mechanism Ass'y and Parts List



■ Parts List

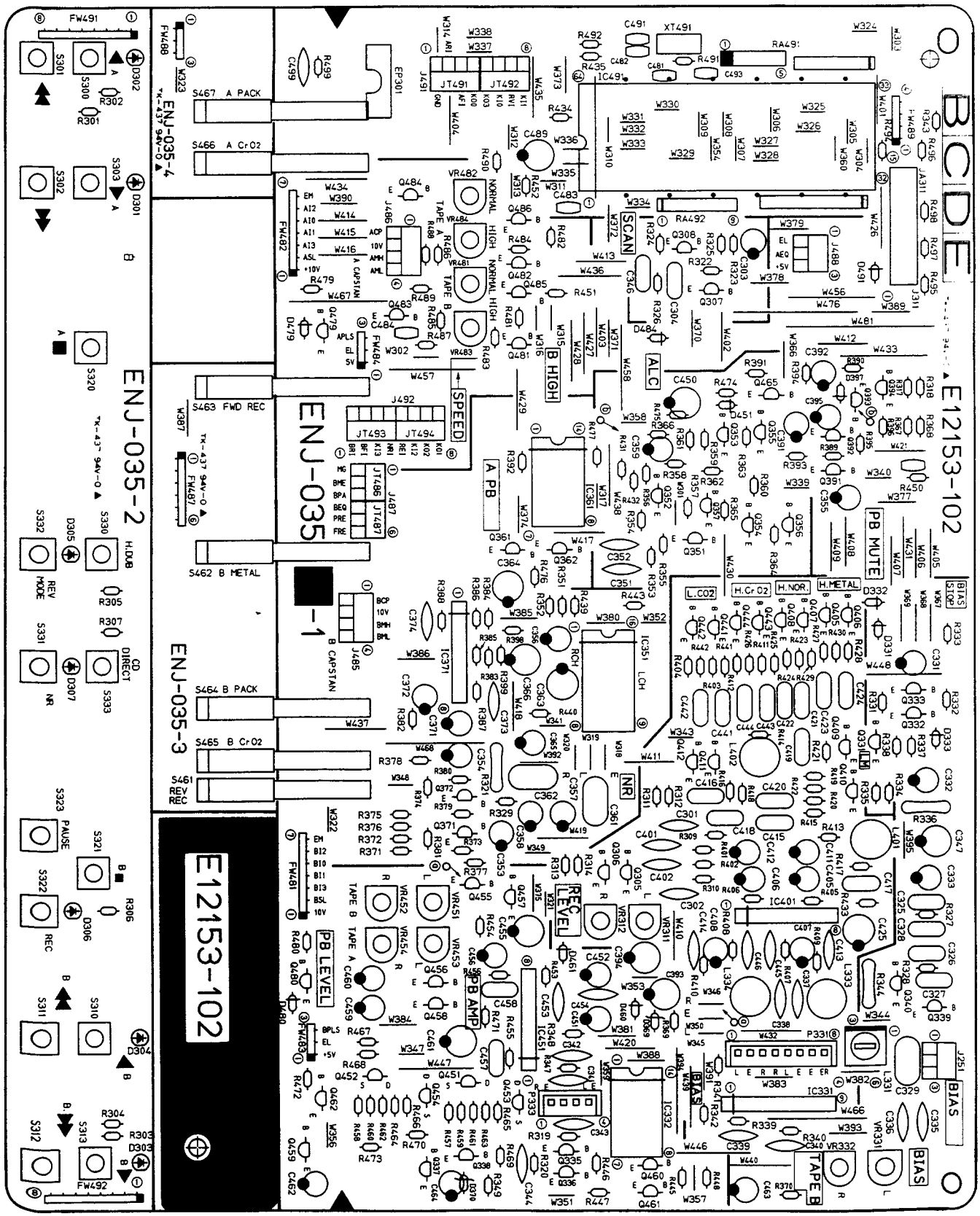
Item	Part Number	Part Name	Q'ty	Description	Areas
1	VKL2470-00E	Chassise Base Ass'y	1		
2	VKS2192-00B	Houging	1	Left	
3	VKS2193-00E	Houging	1	Right	
4	SDST2605Z	Screw	2		
5	VKR3168-002	Geneva Gear	1		
6	VKS5249-00F	Select Arm Ass'y	1		
7	WDL214025-4	Washer	1		
8	VKS2194-002	Drive Cam Gear	1		
9	VKZ4036-002	Frat Push Nut	1		
10	VKW3006-195	Spring	1		
11	VKW3002-258	Spring	1		
12	VKS2195-002	Select Cam Gear	1		
13	VKW4825-004	Spring	1		
14	VKZ4036-001	Frat Push Nut	3		
15	VKS3414-001	Trigger Lever	1		
16	VKS5214-001	Neutral Ass'y	1		
17	VKW3006-203	Spring	1		
18	VGP1601-002	Solenoide	1		
19	VKZ4539-003	Screw	1		
20	VKL2471-00C	Rell Base Ass'y	1		
21	SDST2004Z	Screw	9		
22	VKS5262-00G	Pick up Arm Ass'y	1		
23	VKW3006-197	Spring	1		
24	VKS5217-00C	FF Arm Ass'y	1		
25	VKS5218-00C	Rew Lever Ass'y	1		
26	VKW3002-260	Spring	2		
27	VKR3166-00H	Crutch Ass'y	1		
28	WDL163525-4	Washer	2		
29	VKR4582-001	P.Conect Gear	1		
30	VKR4519-00A	Rell Disc Ass'y	1		
31	VKR4518-00A	Rell Disc Ass'y	1		
32	VKZ4003-010	Felt	2		
33	VKR4170-001	Rink -	2		
34	VKS4131-001	Rell Stopper	2		
35	VKS5221-00D	T-UP Arm Ass'y	1		
36	VKL6647-001	P/R ACT Lever	1		
37	VKM3248-003	Play Arm	1		
38	VKF3161-00E	Flywheel Ass'y	1	Front	
39	VKZ4035-015	Washer	2		
40	VKZ4035-009	Washer	1		
41	VKF3168-00A	Flywheel Ass'y	1	Rear	
42	Q03093-527	Washer	1		
43	VKW3001-271	Spring	2		
44	VKB3000-134	Belt	1		
45	VKM3345-00A	F.M.Bracket	1		
46	VKM3325-003	Support Bracket	1		
47	MMI-6H2LWK	D.C. Moter	1		
48	VKR4583-002	Moter Pulley	1		
49	SSSP2605Z	Screw	2		
50	VKL6648-00A	DIR Lever Ass'y	1		
51	VKM3249-001	P/R Lever	1		
52	VKL6650-003	TUP Lever	1		
53	VKY4570-003	Spring Plate	1		
54	VKM3250-002	Head Base	1		
55	VKW3006-201	Spring	1		
56	VKS3349-00E	Head Mount Base Ass'y	1		
57	VYTH468-001	Spacer	1		
58	VKZ4514-001	Screw	2		
59	YK10P-AS406	P.Head	1	A Mecha	
	VGH0425-536	P/R& E.Head	1	B Mecha	

Item	Part Number	Part Name	Q'ty	Description	Areas
60	VKZ4291-005	Head Screw	2		
61	VKP4208-00C	P.R. Arm Ass'y	1	Right	
62	VKW4883-001	Spring	1		
63	VKW3008-028	Spring	1		
64	VKP4209-00C	P.R. Arm Ass'y	1	Left	
65	VKW4833-002	Spring	1		
66	VKW3008-024	Spring	1		
67	VKL6028-004	Door Safety	1	A Mecha	
	VKL5492-003	Door Safety	1	B Mecha	
68	VKS4512-003	Guide Post	1		
69	VKZ4549-00A	Cam Switch	1		
70	E75216-004	Spring	1		
71	SDST2604Z	Screw	3		
72	VKY4279-002	Pack Spring	1		
73	DN6851A	Holl IC	1		
74	E04365-003S	Conector	1		
75	VMW2741-001	Circuit Board	1		
76	VMC0007-007	Conector	1		
77	VDM9130-002M-A	Conector Wire	1	A Mecha	
	VDM2187-MB02	Conector Wire	1	B Mecha	
78	VKS3442-001	Brake Arm	1		
79	VKZ4129-001	Brake Rubber	1		
80	VKZ4157-001	Brake Rubber	1		
81	SDST2006Z	Screw	1		
82	VKW3002-266	SPring	1		

Printed Circuit Board Ass'y and Parts List

■ ENJ-035 ☐ Cassette PC Board Ass'y

Note : ENJ-035 ☐ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENJ-035 [B]	the U.S.A.
ENJ-035 [C]	Other Countries, Austraria, Continental Europe (with LW), Switzerland (with LW), the U.K. (with LW)
ENJ-035 [D]	West Germany (with LW), Italy (with LW)

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q305	2SD2144S(VW)	SILICON	ROHM	
	Q306	2SD2144S(VW)	SILICON	ROHM	
	Q307	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q308	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q331	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q332	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q333	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q335	DTC144ES	SILICON	ROHM	
	Q336	DTC144ES	SILICON	ROHM	
	Q337	DTC144ES	SILICON	ROHM	
	Q338	DTC144ES	SILICON	ROHM	
	Q339	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q340	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q351	2SC1740(R,S)	SILICON	ROHM	
	Q352	2SC1740(R,S)	SILICON	ROHM	
	Q353	2SC1740(R,S)	SILICON	ROHM	
	Q354	2SC1740(R,S)	SILICON	ROHM	
	Q355	2SC1740(R,S)	SILICON	ROHM	
	Q356	2SC1740(R,S)	SILICON	ROHM	
	Q357	2SC1740(R,S)	SILICON	ROHM	
	Q361	DTC144ES	SILICON	ROHM	
	Q362	DTC144ES	SILICON	ROHM	
	Q371	2SD2144S(VW)	SILICON	ROHM	
	Q372	2SD2144S(VW)	SILICON	ROHM	
	Q391	2SD2144S(VW)	SILICON	ROHM	
	Q392	2SD2144S(VW)	SILICON	ROHM	
	Q393	DTC144ES	SILICON	ROHM	
	Q394	DTA144ES	SILICON	ROHM	
	Q405	DTC144TS	SILICON	ROHM	
	Q406	DTC144TS	SILICON	ROHM	
	Q407	DTC144TS	SILICON	ROHM	
	Q408	DTC144TS	SILICON	ROHM	
	Q409	DTC144TS	SILICON	ROHM	
	Q410	DTC144TS	SILICON	ROHM	
	Q411	DTC144TS	SILICON	ROHM	
	Q412	DTC144TS	SILICON	ROHM	
	Q441	DTC144TS	SILICON	ROHM	
	Q442	DTC144TS	SILICON	ROHM	
	Q443	DTC144TS	SILICON	ROHM	
	Q444	DTC144TS	SILICON	ROHM	
	Q451	2SK301(Q,R)	F.E.T	MATSUSHITA	
	Q452	2SK301(Q,R)	F.E.T	MATSUSHITA	
	Q453	2SK301(Q,R)	F.E.T	MATSUSHITA	
	Q454	2SK301(Q,R)	F.E.T	MATSUSHITA	
	Q455	DTC114YS	SILICON	ROHM	
	Q456	DTC114YS	SILICON	ROHM	
	Q457	DTC114YS	SILICON	ROHM	
	Q458	DTC114YS	SILICON	ROHM	
	Q459	DTC114YS	SILICON	ROHM	
	Q460	2SA933(R,S)	SILICON	ROHM	
	Q461	DTA114YS	SILICON	ROHM	
	Q462	DTC144ES	SILICON	ROHM	
	Q465	DTA114YS	SILICON	ROHM	
	Q479	2SD2144S(VW)	SILICON	ROHM	
	Q480	2SD2144S(VW)	SILICON	ROHM	
	Q481	2SA564A(Q,R)	SILICON	MATSUSHITA	
	Q482	2SA564A(Q,R)	SILICON	MATSUSHITA	
	Q483	2SC3377(Q,R)	SILICON	ROHM	
	Q484	2SC3377(Q,R)	SILICON	ROHM	
	Q485	DTC144ES	SILICON	ROHM	
	Q486	DTC144ES	SILICON	ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	IC331	UPC1330HA	I.C.	NEC	
	IC332	TC4066BP	I.C.	TOSHIBA	
	IC351	HA12136A	I.C.	HITACHI	
	IC361	TC4066BP	I.C.	TOSHIBA	
	IC371	XRA15218N	I.C.		
	IC401	XRA15218N	I.C.		
	IC451	UPC1228HA	I.C.	NEC	
	IC491	HD614081SB21	I.C.	HITACHI	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D301	SLH-34DC3F	L.E.D.	ROHM	
	D302	SLH-34DC3F	L.E.D.	ROHM	
	D303	SLH-34DC3F	L.E.D.	ROHM	
	D304	SLH-34DC3F	L.E.D.	ROHM	
	D305	SLH-34VC3F	L.E.D.	ROHM	
	D306	SLH-34VC3F	L.E.D.	ROHM	
	D307	SLH-34VC3F	L.E.D.	ROHM	
	D331	1SS133	SILICON	ROHM	
	D332	1SS133	SILICON	ROHM	
	D333	1SS133	SILICON	ROHM	
	D369	MTZ8.2JC	ZENER	ROHM	
	D370	MTZ8.2JC	ZENER	ROHM	
	D397	1SS133	SILICON	ROHM	
	D451	1SS133	SILICON	ROHM	
	D460	1SS133	SILICON	ROHM	
	D461	1SS133	SILICON	ROHM	
	D479	1SS133	SILICON	ROHM	
	D480	1SS133	SILICON	ROHM	
	D484	1SS133	SILICON	ROHM	
	D491	1SS133	SILICON	ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C301	QCY21HK-122	1200PF	50V	CERAMIC	
	C302	QCY21HK-122	1200PF	50V	CERAMIC	
	C303	QETB1HM-105	1MF	50V	ELECTRO	
	C304	QFV81HJ-223	0.022MF	50V	T.FILM	
	C322	QCF21HP-223	0.022MF	50V	CERAMIC	
	C325	QFN81HJ-222	2200PF	50V	MYLAR	
	C326	QFN81HJ-222	2200PF	50V	MYLAR	
	C327	QFN81HJ-682	6800PF	50V	MYLAR	
	C328	QFV81HJ-123	0.012MF	50V	T.FILM	
	C329	QFP81HG-562	5600PF	50V	POLY	
	C331	QETB1HM-105	1MF	50V	ELECTRO	
	C332	QETB1HM-105	1MF	50V	ELECTRO	
	C333	QETB1EM-106	10MF	25V	ELECTRO	
	C335	QCS21HJ-101	100PF	50V	CERAMIC	
	C336	QCS21HJ-101	100PF	50V	CERAMIC	
	C337	QCS21HJ-101	100PF	50V	CERAMIC	
	C338	QCS21HJ-101	100PF	50V	CERAMIC	
	C339	QCY21HK-102	1000PF	50V	CERAMIC	
	C340	QCY21HK-102	1000PF	50V	CERAMIC	
	C341	QCS21HJ-331	330PF	50V	CERAMIC	
	C342	QCS21HJ-331	330PF	50V	CERAMIC	
	C343	QCS21HJ-561	560PF	50V	CERAMIC	
	C344	QCS21HJ-561	560PF	50V	CERAMIC	
	C346	QFV81HJ-223	0.022MF	50V	T.FILM	
	C347	QETB1CM-107	100MF	16V	ELECTRO	
	C351	QCF21HP-473	0.047MF	50V	CERAMIC	
	C352	QCF21HP-473	0.047MF	50V	CERAMIC	
	C353	QEK51HM-105G	1MF	50V	ELECTRO	
	C354	QEK51HM-105G	1MF	50V	ELECTRO	
	C355	QEK51HM-105G	1MF	50V	ELECTRO	
	C356	QEK51HM-105G	1MF	50V	ELECTRO	
	C357	QETB1EM-106	10MF	25V	ELECTRO	
	C358	QETB1EM-106	10MF	25V	ELECTRO	
	C359	QETB1EM-106	10MF	25V	ELECTRO	
	C361	QFV81HJ-224	0.22MF	50V	T.FILM	
	C362	QFV81HJ-224	0.22MF	50V	T.FILM	
	C363	QETB1HM-475	4.7MF	50V	ELECTRO	
	C364	QETB1CM-107	100MF	16V	ELECTRO	
	C365	QETB1HM-475	4.7MF	50V	ELECTRO	
	C366	QETB1CM-107	100MF	16V	ELECTRO	
	C371	QETB1HM-105	1MF	50V	ELECTRO	
	C372	QETB1HM-105	1MF	50V	ELECTRO	
	C373	QCS21HJ-220	22PF	50V	CERAMIC	
	C374	QCS21HJ-220	22PF	50V	CERAMIC	
	C391	QETB1EM-106	10MF	25V	ELECTRO	
	C392	QETB1EM-106	10MF	25V	ELECTRO	
	C393	QETB1CM-107	100MF	16V	ELECTRO	
	C394	QETB1CM-107	100MF	16V	ELECTRO	
	C395	QETB1HM-106	10MF	50V	ELECTRO	
	C401	QCF21HP-473	0.047MF	50V	CERAMIC	
	C402	QCF21HP-473	0.047MF	50V	CERAMIC	
	C405	QEK51HM-225G	2.2MF	50V	ELECTRO	
	C406	QEK51HM-225G	2.2MF	50V	ELECTRO	
	C407	QEK51HM-225G	2.2MF	50V	ELECTRO	
	C408	QEK51HM-225G	2.2MF	50V	ELECTRO	
	C411	QEK51CM-106G	10MF	16V	ELECTRO	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C412	QEK51CM-106G	10MF	16V	ELECTRO	
	C413	QCS21HJ-271	270PF	50V	CERAMIC	
	C414	QCS21HJ-271	270PF	50V	CERAMIC	
	C415	QFN81HJ-562	5600PF	50V	MYLAR	
	C416	QFN81HJ-562	5600PF	50V	MYLAR	
	C417	QFN81HJ-682	6800PF	50V	MYLAR	
	C418	QFN81HJ-682	6800PF	50V	MYLAR	
	C419	QFV81HJ-123	0.012MF	50V	T.FILM	
	C420	QFV81HJ-123	0.012MF	50V	T.FILM	
	C421	QFN81HJ-332	3300PF	50V	MYLAR	
	C422	QFN81HJ-332	3300PF	50V	MYLAR	
	C423	QFV81HJ-103	0.01MF	50V	T.FILM	
	C424	QFV81HJ-103	0.01MF	50V	T.FILM	
	C425	QEK51CM-107	100MF	16V	ELECTRO	
	C441	QFV81HJ-123	0.012MF	50V	T.FILM	
	C442	QFV81HJ-123	0.012MF	50V	T.FILM	
	C443	QFV81HJ-123	0.012MF	50V	T.FILM	
	C444	QFV81HJ-123	0.012MF	50V	T.FILM	
	C445	QCS21HJ-470	47PF	50V	CERAMIC	
	C446	QCS21HJ-470	47PF	50V	CERAMIC	
	C450	QETB1AM-476	47MF	10V	ELECTRO	
	C451	QEK51HM-225G	2.2MF	50V	ELECTRO	
	C452	QEK51HM-225G	2.2MF	50V	ELECTRO	
	C453	QCS21HJ-101	100PF	50V	CERAMIC	
	C454	QCS21HJ-101	100PF	50V	CERAMIC	
	C455	QETB1AM-107	100MF	10V	ELECTRO	
	C456	QETB1AM-107	100MF	10V	ELECTRO	
	C457	QFN81HJ-822	8200PF	50V	MYLAR	
	C458	QFN81HJ-822	8200PF	50V	MYLAR	
	C459	QEK51HM-105G	1MF	50V	ELECTRO	
	C460	QEK51HM-105G	1MF	50V	ELECTRO	
	C461	QEK51CM-107	100MF	16V	ELECTRO	
	C462	QETB1HM-106	10MF	50V	ELECTRO	
	C463	QETB1HM-106	10MF	50V	ELECTRO	
	C464	QETB1HM-106	10MF	50V	ELECTRO	
	C481	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C484	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C489	QETB0JM-227	220MF	6.3V	ELECTRO	
	C491	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C493	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C499	QCF21HP-103	0.01MF	50V	CERAMIC	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R301	QRD167J-271	270	1/6W	CARBON	
	R302	QRD167J-271	270	1/6W	CARBON	
	R303	QRD167J-271	270	1/6W	CARBON	
	R304	QRD167J-271	270	1/6W	CARBON	
	R305	QRD167J-561	560	1/6W	CARBON	
	R306	QRD167J-561	560	1/6W	CARBON	
	R307	QRD167J-561	560	1/6W	CARBON	
	R309	QRD167J-473	47K	1/6W	CARBON	
	R310	QRD167J-473	47K	1/6W	CARBON	
	R311	QRD167J-103	10K	1/6W	CARBON	
	R312	QRD167J-103	10K	1/6W	CARBON	
	R313	QRD167J-153	15K	1/6W	CARBON	
	R314	QRD167J-153	15K	1/6W	CARBON	
	R317	QRD167J-163	16K	1/6W	CARBON	
	R318	QRD167J-163	16K	1/6W	CARBON	
	R319	QRD167J-563	56K	1/6W	CARBON	
	R320	QRD167J-563	56K	1/6W	CARBON	
⚠	R321	QRZ0077-220	22	1/4W	FUSIBLE	
	R322	QRD167J-913	91K	1/6W	CARBON	
	R323	QRD167J-105	1M	1/6W	CARBON	
	R324	QRD167J-103	10K	1/6W	CARBON	
	R325	QRD167J-753	75K	1/6W	CARBON	
	R326	QRD167J-105	1M	1/6W	CARBON	
	R327	QRD167J-473	47K	1/6W	CARBON	
	R328	QRD167J-473	47K	1/6W	CARBON	
	R329	QRD167J-472	4.7K	1/6W	CARBON	
	R331	QRD167J-332	3.3K	1/6W	CARBON	
	R332	QRD167J-332	3.3K	1/6W	CARBON	
	R333	QRD167J-104	100K	1/6W	CARBON	
	R334	QRD167J-621	620	1/6W	CARBON	
	R335	QRD167J-471	470	1/6W	CARBON	
⚠	R336	QRZ0077-100	10	1/4W	FUSIBLE	
	R337	QRD167J-471	470	1/6W	CARBON	
	R338	QRD167J-331	330	1/6W	CARBON	
	R339	QRD167J-473	47K	1/6W	CARBON	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R340	QRD167J-473	47K	1/6W	CARBON	
	R341	QRD167J-100	10	1/6W	CARBON	
	R342	QRD167J-100	10	1/6W	CARBON	
	R343	QRD167J-222	2.2K	1/6W	CARBON	
⚠	R344	QRD14CJ-5R6S	5.6	1/4W	UNF.CARBON	
	R347	QRD167J-154	150K	1/6W	CARBON	
	R348	QRD167J-154	150K	1/6W	CARBON	
	R349	QRD167J-223	22K	1/6W	CARBON	
	R351	QRD167J-104	100K	1/6W	CARBON	
	R352	QRD167J-104	100K	1/6W	CARBON	
	R353	QRD167J-153	15K	1/6W	CARBON	
	R354	QRD167J-153	15K	1/6W	CARBON	
	R355	QRD167J-273	27K	1/6W	CARBON	
	R356	QRD167J-273	27K	1/6W	CARBON	
	R357	QRD167J-332	3.3K	1/6W	CARBON	
	R358	QRD167J-332	3.3K	1/6W	CARBON	
	R359	QRD167J-223	22K	1/6W	CARBON	
	R360	QRD167J-223	22K	1/6W	CARBON	
	R361	QRD167J-561	560	1/6W	CARBON	
	R362	QRD167J-561	560	1/6W	CARBON	
	R363	QRD167J-272	2.7K	1/6W	CARBON	
	R364	QRD167J-272	2.7K	1/6W	CARBON	
	R365	QRD167J-103	10K	1/6W	CARBON	
	R366	QRD167J-105	1M	1/6W	CARBON	
	R367	QRD167J-472	4.7K	1/6W	CARBON	
	R368	QRD167J-472	4.7K	1/6W	CARBON	
	R369	QRD167J-102	1K	1/6W	CARBON	
	R370	QRD167J-102	1K	1/6W	CARBON	
	R371	QRD167J-562	5.6K	1/6W	CARBON	
	R372	QRD167J-562	5.6K	1/6W	CARBON	
	R373	QRD167J-103	10K	1/6W	CARBON	
	R374	QRD167J-103	10K	1/6W	CARBON	
	R375	QRD167J-223	22K	1/6W	CARBON	
	R376	QRD167J-223	22K	1/6W	CARBON	
	R377	QRD167J-103	10K	1/6W	CARBON	
	R378	QRD167J-103	10K	1/6W	CARBON	
	R379	QRD167J-242	2.4K	1/6W	CARBON	
	R380	QRD167J-242	2.4K	1/6W	CARBON	
	R381	QRD167J-102	1K	1/6W	CARBON	
	R382	QRD167J-102	1K	1/6W	CARBON	
	R383	QRD167J-104	100K	1/6W	CARBON	
	R384	QRD167J-104	100K	1/6W	CARBON	
	R385	QRD167J-682	6.8K	1/6W	CARBON	
	R386	QRD167J-682	6.8K	1/6W	CARBON	
	R387	QRD167J-104	100K	1/6W	CARBON	
	R388	QRD167J-104	100K	1/6W	CARBON	
	R389	QRD167J-221	220	1/6W	CARBON	
	R390	QRD167J-221	220	1/6W	CARBON	
	R391	QRD167J-562	5.6K	1/6W	CARBON	
	R392	QRD167J-562	5.6K	1/6W	CARBON	
	R393	QRD167J-562	5.6K	1/6W	CARBON	
	R394	QRD167J-562	5.6K	1/6W	CARBON	
	R395	QRD167J-103	10K	1/6W	CARBON	
	R396	QRD167J-103	10K	1/6W	CARBON	
	R398	QRD167J-223	22K	1/6W	CARBON	
	R399	QRD167J-223	22K	1/6W	CARBON	
	R401	QRD167J-333	33K	1/6W	CARBON	
	R402	QRD167J-333	33K	1/6W	CARBON	
	R403	QRD167J-472	4.7K	1/6W	CARBON	
	R404	QRD167J-472	4.7K	1/6W	CARBON	
	R405	QRD167J-683	68K	1/6W	CARBON	
	R406	QRD167J-683	68K	1/6W	CARBON	
	R407	QRD167J-153	15K	1/6W	CARBON	
	R408	QRD167J-153	15K	1/6W	CARBON	
	R409	QRD167J-153	15K	1/6W	CARBON	
	R410	QRD167J-153	15K	1/6W	CARBON	
	R411	QRD167J-472	4.7K	1/6W	CARBON	
	R412	QRD167J-472	4.7K	1/6W	CARBON	
	R413	QRD167J-182	1.8K	1/6W	CARBON	
	R414	QRD167J-182	1.8K	1/6W	CARBON	
	R415	QRD167J-511	510	1/6W	CARBON	
	R416	QRD167J-511	510	1/6W	CARBON	
	R417	QRD167J-301	300	1/6W	CARBON	
	R418	QRD167J-301	300	1/6W	CARBON	
	R419	QRD167J-302	3K	1/6W	CARBON	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R420	QRD167J-302	3K	1/6W	CARBON	
	R421	QRD167J-242	2.4K	1/6W	CARBON	
	R422	QRD167J-242	2.4K	1/6W	CARBON	
	R423	QRD167J-122	1.2K	1/6W	CARBON	
	R424	QRD167J-122	1.2K	1/6W	CARBON	
	R425	QRD167J-221	220	1/6W	CARBON	
	R426	QRD167J-221	220	1/6W	CARBON	
	R427	QRD167J-151	150	1/6W	CARBON	
	R428	QRD167J-151	150	1/6W	CARBON	
	R429	QRD167J-202	2K	1/6W	CARBON	
	R430	QRD167J-202	2K	1/6W	CARBON	
	R431	QRD167J-474	470K	1/6W	CARBON	
	R432	QRD167J-474	470K	1/6W	CARBON	
	R433	QRD167J-271	270	1/6W	CARBON	
	R434	QRD167J-103	10K	1/6W	CARBON	
	R435	QRD167J-101	100	1/6W	CARBON	
	R439	QRD167J-103	10K	1/6W	CARBON	
	R440	QRD167J-223	22K	1/6W	CARBON	
	R441	QRD167J-681	680	1/6W	CARBON	
	R442	QRD167J-681	680	1/6W	CARBON	
	R443	QRD167J-183	18K	1/6W	CARBON	
	R445	QRD167J-224	220K	1/6W	CARBON	
	R446	QRD167J-103	10K	1/6W	CARBON	
	R447	QRD167J-103	10K	1/6W	CARBON	
	R448	QRD167J-223	22K	1/6W	CARBON	
	R450	QRD167J-271	270	1/6W	CARBON	
	R451	QRD167J-102	1K	1/6W	CARBON	
	R452	QRD167J-102	1K	1/6W	CARBON	
	R453	QRD167J-470	47	1/6W	CARBON	
	R454	QRD167J-470	47	1/6W	CARBON	
	R455	QRD167J-334	330K	1/6W	CARBON	
	R456	QRD167J-334	330K	1/6W	CARBON	
	R457	QRD167J-432	4.3K	1/6W	CARBON	
	R458	QRD167J-432	4.3K	1/6W	CARBON	
	R459	QRD167J-152	1.5K	1/6W	CARBON	
	R460	QRD167J-152	1.5K	1/6W	CARBON	
	R461	QRD167J-512	5.1K	1/6W	CARBON	
	R462	QRD167J-512	5.1K	1/6W	CARBON	
	R463	QRD167J-512	5.1K	1/6W	CARBON	
	R464	QRD167J-512	5.1K	1/6W	CARBON	
	R465	QRD167J-223	22K	1/6W	CARBON	
	R466	QRD167J-223	22K	1/6W	CARBON	
	R467	QRD167J-105	1M	1/6W	CARBON	
	R468	QRD167J-105	1M	1/6W	CARBON	
	R469	QRD167J-105	1M	1/6W	CARBON	
	R470	QRD167J-105	1M	1/6W	CARBON	
	R471	QRD167J-471	470	1/6W	CARBON	
	R472	QRD167J-472	4.7K	1/6W	CARBON	
	R473	QRD167J-472	4.7K	1/6W	CARBON	
	R474	QRD167J-274	270K	1/6W	CARBON	
	R475	QRD167J-104	100K	1/6W	CARBON	
	R476	QRD167J-103	10K	1/6W	CARBON	
	R477	QRD167J-103	10K	1/6W	CARBON	
	R479	QRD167J-222	2.2K	1/6W	CARBON	
	R480	QRD167J-222	2.2K	1/6W	CARBON	
	R481	QRD167J-394	390K	1/6W	CARBON	
	R482	QRD167J-394	390K	1/6W	CARBON	
	R483	QRD167J-224	220K	1/6W	CARBON	
	R484	QRD167J-224	220K	1/6W	CARBON	
	R485	QRD167J-472	4.7K	1/6W	CARBON	
	R486	QRD167J-472	4.7K	1/6W	CARBON	
	R487	QRD167J-103	10K	1/6W	CARBON	
	R488	QRD167J-103	10K	1/6W	CARBON	
	R489	QRD167J-102	1K	1/6W	CARBON	
	R490	QRD167J-102	1K	1/6W	CARBON	
	R491	QRD167J-105	1M	1/6W	CARBON	
	R492	QRD167J-153	15K	1/6W	CARBON	
	R494	QRD167J-101	100	1/6W	CARBON	
	R495	QRD167J-101	100	1/6W	CARBON	
	R496	QRD167J-101	100	1/6W	CARBON	
	R497	QRD167J-104	100K	1/6W	CARBON	
	R498	QRD167J-101	100	1/6W	CARBON	
	R499	QRD167J-220	22	1/6W	CARBON	
	RA491	ERB045J-562	5.6K	1/8W	R.NETWORK	
	RA492	QRB089J-104	100K	1/10W	R.NETWORK	
	VR311	QVPA601-503A	50K		VARIABLE	
	VR312	QVPA601-503A	50K		VARIABLE	
	VR331	QVPA601-204A	200K		VARIABLE	
	VR332	QVPA601-204A	200K		VARIABLE	
	VR451	QVPA601-201A	200		VARIABLE	
	VR452	QVPA601-201A	200		VARIABLE	
	VR453	QVPA601-201A	200		VARIABLE	
	VR454	QVPA601-201A	200		VARIABLE	
	VR481	QVPA601-103A	10K		VARIABLE	
	VR482	QVPA601-103A	10K		VARIABLE	
	VR483	QVPA601-103A	10K		VARIABLE	
	VR484	QVPA601-103A	10K		VARIABLE	

⚠ : SAFETY PARTS

Others

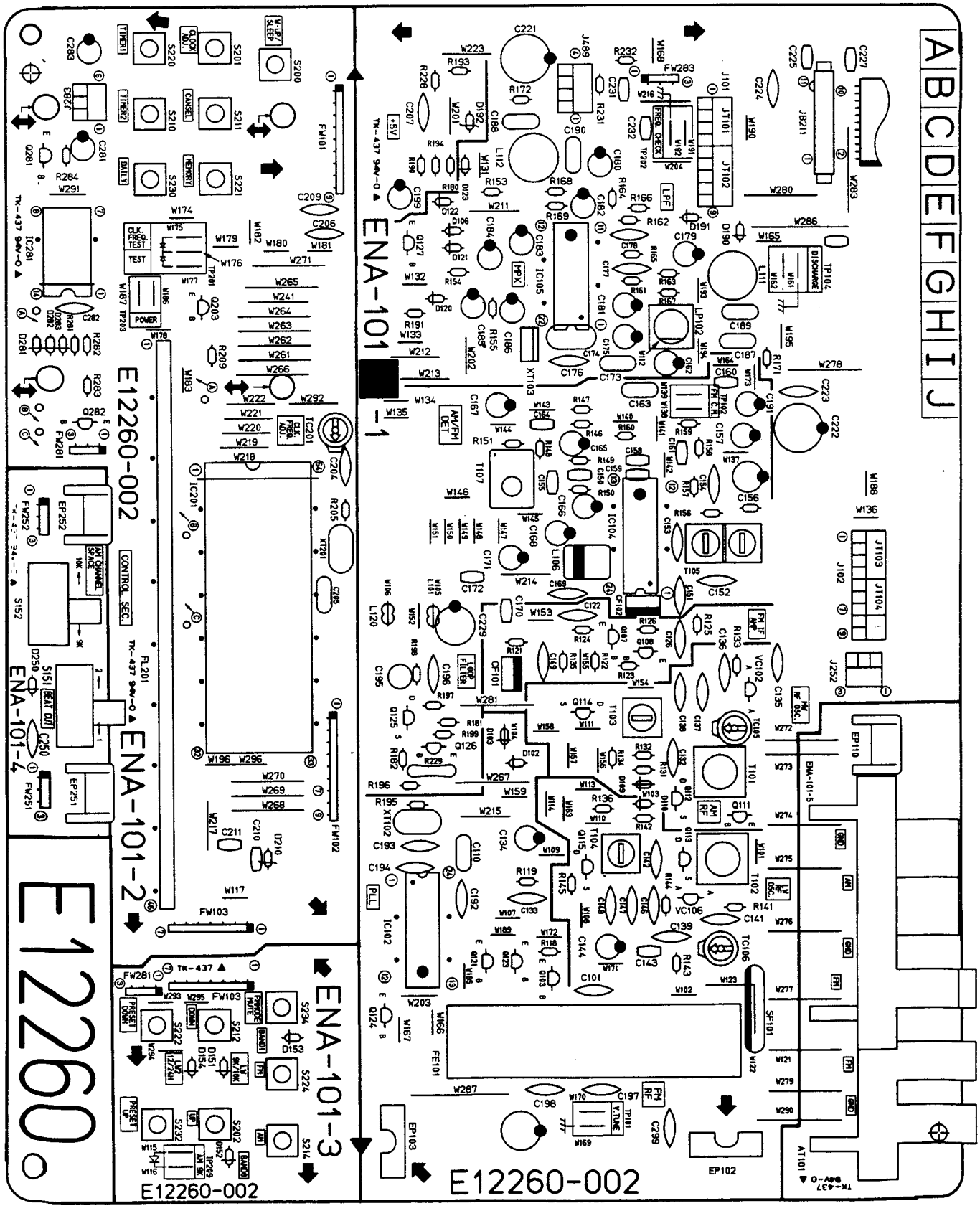
⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E12153-102	CIRCUIT BOARD	
	J251	EMV7122-003	CONNECTOR	
	J311	EMV7130-015	CONNECTOR	
	J485	EMV7122-004	CONNECTOR	
	J486	EMV7122-004	CONNECTOR	
	J488	EMV7122-103	CONNECTOR	
	L331	EN26002-009	OSC COIL	
	L333	EQL2106-223	INDUCTOR	
	L334	EQL2106-223	INDUCTOR	
	L401	EQL2106-562	INDUCTOR	
	L402	EQL2106-562	INDUCTOR	
	P331	E04363-008	BP PLUG ASSY	
	P333	E04363-004	PLUG ASSY	
	S300	ESP0001-018	TACT SWITCH	
	S301	ESP0001-018	TACT SWITCH	
	S302	ESP0001-018	TACT SWITCH	
	S303	ESP0001-018	TACT SWITCH	
	S310	ESP0001-018	TACT SWITCH	
	S311	ESP0001-018	TACT SWITCH	
	S312	ESP0001-018	TACT SWITCH	
	S313	ESP0001-018	TACT SWITCH	
	S320	ESP0001-018	TACT SWITCH	
	S321	ESP0001-018	TACT SWITCH	
	S322	ESP0001-018	TACT SWITCH	
	S323	ESP0001-018	TACT SWITCH	
	S330	ESP0001-018	TACT SWITCH	
	S331	ESP0001-018	TACT SWITCH	
	S332	ESP0001-018	TACT SWITCH	
	S333	ESP0001-018	TACT SWITCH	
	S461	ESB1100-003	LEAF SWITCH	
	S462	ESB1100-003	LEAF SWITCH	
	S463	ESB1100-003	LEAF SWITCH	
	S464	ESB1100-003	LEAF SWITCH	
	S465	ESB1100-003	LEAF SWITCH	
	S466	ESB1100-003	LEAF SWITCH	
	S467	ESB1100-003	LEAF SWITCH	
	EP301	E70859-001	EARTH PLATE	
	FS334	E3400-431	SPACER	
	FW481	EWR37B-13LST	FLAT WIRE	
	FW482	EWR37B-13LST	FLAT WIRE	
	FW483	EWR33B-13LST	FLAT WIRE	
	FW484	EWR33B-13LST	FLAT WIRE	
	FW487	EWR36B-16LST	FLAT WIRE	
	FW488	EWR33B-20LST	FLAT WIRE	
	FW489	EWR34B-13LST	FLAT WIRE	
	FW491	EWR38B-25LST	FLAT WIRE	
	FW492	EWR38B-35LST	FLAT WIRE	
	JA311	EWP902-016	PLUG CORD	
	JT486	EMV7122-103	CONNECTOR	
	JT487	EMV7122-103	CONNECTOR	
	JT491	EMV7122-004	CONNECTOR	
	JT492	EMV7122-004	CONNECTOR	
	JT493	EMV7122-004	CONNECTOR	
	JT494	EMV7122-004	CONNECTOR	
	XT491	ECX0004-194KM	RESONATOR	

⚠ : SAFETY PARTS

http://www.ManualsCenter.com

■ENA-101 ☐ Tuner PC Board Ass'y

Note : ENA-101 ☐ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENA-101 [A]	the U.S.A.
ENA-101 [B]	Other Countries
ENA-101 [C]	Australia
ENA-101 [D]	Continental Europe (with LW)
ENA-101 [E]	West Germany (with LW)
ENA-101 [F]	the U.K. (with LW)
ENA-101 [G]	Italy (with LW)
ENA-101 [I]	Switzerland (with LW)

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q103	2SC461(B,C)	SILICON	HITACHI	
	Q107	2SC535(B,C)	SILICON	HITACHI	
	Q108	2SC461(B,C)	SILICON	HITACHI	
	Q111	2SD2144S(VW)	SILICON	ROHM	D
	Q111	2SD2144S(VW)	SILICON	ROHM	E
	Q111	2SD2144S(VW)	SILICON	ROHM	F
	Q111	2SD2144S(VW)	SILICON	ROHM	G
	Q111	2SD2144S(VW)	SILICON	ROHM	I
	Q112	2SK301(Q,R)	F.E.T	MATSUSHITA	
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	D
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	E
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	F
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	G
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	I
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	D
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	E
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	F
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	G
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	I
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	D
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	E
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	F
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	G
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	I
	Q121	DTA114ES	SILICON	ROHM	D
	Q121	DTA114ES	SILICON	ROHM	E
	Q121	DTA114ES	SILICON	ROHM	F
	Q121	DTA114ES	SILICON	ROHM	G
	Q121	DTA114ES	SILICON	ROHM	I
	Q123	DTA114ES	SILICON	ROHM	
	Q124	DTA114ES	SILICON	ROHM	
	Q125	2SK301(Q2)	F.E.T	MATSUSHITA	
	Q126	2SC458(D)	SILICON	HITACHI	
	Q127	DTC144ES	SILICON	ROHM	
	Q203	DTA114YS	SILICON	ROHM	
	Q281	DTA114YS	SILICON	ROHM	
	Q282	DTC114YS	SILICON	ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	IC102	LC7218	I.C.	SANYO	
	IC104	LA1266A	I.C.	SANYO	
	IC105	LA3401	I.C.	SANYO	
	IC201	HD614089SB93	I.C.	HITACHI	
	IC281	TC4011BP	I.C.	TOSHIBA	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D102	1SS133	SILICON	ROHM	D
	D102	1SS133	SILICON	ROHM	E
	D102	1SS133	SILICON	ROHM	F
	D102	1SS133	SILICON	ROHM	G
	D102	1SS133	SILICON	ROHM	I
	D103	1SS133	SILICON	ROHM	D
	D103	1SS133	SILICON	ROHM	E
	D103	1SS133	SILICON	ROHM	F
	D103	1SS133	SILICON	ROHM	G
	D103	1SS133	SILICON	ROHM	I
	D106	1SS133	SILICON	ROHM	
	D109	1SS133	SILICON	ROHM	D
	D109	1SS133	SILICON	ROHM	E
	D109	1SS133	SILICON	ROHM	F
	D109	1SS133	SILICON	ROHM	G

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D109	1SS133	SILICON	ROHM	I
	D110	1SS133	SILICON	ROHM	D
	D110	1SS133	SILICON	ROHM	E
	D110	1SS133	SILICON	ROHM	F
	D110	1SS133	SILICON	ROHM	G
	D110	1SS133	SILICON	ROHM	I
	D120	1SS133	SILICON	ROHM	
	D121	1SS133	SILICON	ROHM	
	D122	1SS133	SILICON	ROHM	
	D123	1SS133	SILICON	ROHM	
	D151	1SS133	SILICON	ROHM	C
	D152	1SS133	SILICON	ROHM	A
	D153	1SS133	SILICON	ROHM	B
	D154	1SS133	SILICON	ROHM	A
	D154	1SS133	SILICON	ROHM	G
	D190	1SS133	SILICON	ROHM	
	D191	1SS133	SILICON	ROHM	
	D192	MTZ5.1JC	ZENER	ROHM	
	D210	MTZ5.6JC	ZENER	ROHM	
	D250	1SS133	SILICON	ROHM	B
	D281	1SS133	SILICON	ROHM	
	D282	1SS133	SILICON	ROHM	
	D283	1SS133	SILICON	ROHM	
	VC102	SVC342(L)	VARICAP	SANYO	
	VC106	SVC342(L)	VARICAP	SANYO	D
	VC106	SVC342(L)	VARICAP	SANYO	E
	VC106	SVC342(L)	VARICAP	SANYO	F
	VC106	SVC342(L)	VARICAP	SANYO	G
	VC106	SVC342(L)	VARICAP	SANYO	I

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C101	QCF21HP-223	0.022MF	50V	CERAMIC	
	C110	QCZ0205-155	1.5MF	25V	CERAMIC	
	C122	QCF21HP-223	0.022MF	50V	CERAMIC	
	C126	QCF21HP-223	0.022MF	50V	CERAMIC	
	C132	QCS21HJ-561	560PF	50V	CERAMIC	
	C133	QCF21HP-223	0.022MF	50V	CERAMIC	
	C134	QETB1EM-106	10MF	25V	ELECTRO	
	C135	QCC21EM-223	0.022MF	25V	CERAMIC	
	C136	QCT26CH-180	18PF	50V	CERAMIC	
	C137	QCT26CH-221	220PF	50V	CERAMIC	
	C138	QCT26CH-241	240PF	50V	CERAMIC	
	C139	QCC21EM-223	0.022MF	25V	CERAMIC	D
	C139	QCC21EM-223	0.022MF	25V	CERAMIC	E
	C139	QCC21EM-223	0.022MF	25V	CERAMIC	F
	C139	QCC21EM-223	0.022MF	25V	CERAMIC	G
	C139	QCC21EM-223	0.022MF	25V	CERAMIC	I
	C141	QCS21HJ-270	27PF	50V	CERAMIC	D
	C141	QCS21HJ-270	27PF	50V	CERAMIC	E
	C141	QCS21HJ-270	27PF	50V	CERAMIC	F
	C141	QCS21HJ-270	27PF	50V	CERAMIC	G
	C141	QCS21HJ-270	27PF	50V	CERAMIC	I
	C142	QCY21HK-272	2700PF	50V	CERAMIC	D
	C142	QCY21HK-272	2700PF	50V	CERAMIC	E
	C142	QCY21HK-272	2700PF	50V	CERAMIC	F
	C142	QCY21HK-272	2700PF	50V	CERAMIC	G
	C142	QCY21HK-272	2700PF	50V	CERAMIC	I
	C143	QCHB1EZ-223	0.022MF	25V	CERAMIC	D
	C143	QCHB1EZ-223	0.022MF	25V	CERAMIC	E
	C143	QCHB1EZ-223	0.022MF	25V	CERAMIC	F
	C143	QCHB1EZ-223	0.022MF	25V	CERAMIC	G
	C143	QCHB1EZ-223	0.022MF	25V	CERAMIC	I
	C144	QETB1EM-106	10MF	25V	ELECTRO	D
	C144	QETB1EM-106	10MF	25V	ELECTRO	E
	C144	QETB1EM-106	10MF	25V	ELECTRO	F
	C144	QETB1EM-106	10MF	25V	ELECTRO	G
	C144	QETB1EM-106	10MF	25V	ELECTRO	I
	C146	QCT26CH-680	68PF	50V	CERAMIC	D
	C146	QCT26CH-680	68PF	50V	CERAMIC	E
	C146	QCT26CH-680	68PF	50V	CERAMIC	F
	C146	QCT26CH-680	68PF	50V	CERAMIC	G
	C146	QCT26CH-680	68PF	50V	CERAMIC	I
	C147	QCT26CH-220	22PF	50V	CERAMIC	D
	C147	QCT26CH-220	22PF	50V	CERAMIC	E
	C147	QCT26CH-220	22PF	50V	CERAMIC	F
	C147	QCT26CH-220	22PF	50V	CERAMIC	G
	C147	QCT26CH-220	22PF	50V	CERAMIC	I
	C148	QCT26CH-121	120PF	50V	CERAMIC	D
	C148	QCT26CH-121	120PF	50V	CERAMIC	E
	C148	QCT26CH-121	120PF	50V	CERAMIC	F
	C148	QCT26CH-121	120PF	50V	CERAMIC	G
	C148	QCT26CH-121	120PF	50V	CERAMIC	I
	C149	QCF21HP-223	0.022MF	50V	CERAMIC	
	C150	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C151	QCF21HP-223	0.022MF	50V	CERAMIC	
	C152	QCF21HP-223	0.022MF	50V	CERAMIC	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C153	QCC21EM-223	0.022MF	25V	CERAMIC	
	C154	QCF21HP-223	0.022MF	50V	CERAMIC	
	C155	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C156	QETB1CM-227	220MF	16V	ELECTRO	
	C157	QETB1HM-474	0.47MF	50V	ELECTRO	
	C158	QCBB1HK-101	100PF	50V	CERAMIC	
	C159	QCBB1HK-101	100PF	50V	CERAMIC	
	C160	QCBB1HK-221	220PF	50V	CERAMIC	A
	C160	QCBB1HK-221	220PF	50V	CERAMIC	B
	C160	QCBB1HK-221	220PF	50V	CERAMIC	C
	C160	QCBB1HK-101	100PF	50V	CERAMIC	D
	C160	QCBB1HK-221	220PF	50V	CERAMIC	E
	C160	QCBB1HK-101	100PF	50V	CERAMIC	F
	C160	QCBB1HK-221	220PF	50V	CERAMIC	G
	C160	QCBB1HK-101	100PF	50V	CERAMIC	I
	C161	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C162	QETB1EM-106	10MF	25V	ELECTRO	
	C163	QFN81HK-102	1000PF	50V	MYLAR	
	C164	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C165	QETB1HM-474	0.47MF	50V	ELECTRO	
	C166	QETB1HM-225	2.2MF	50V	ELECTRO	
	C167	QETB1HM-225	2.2MF	50V	ELECTRO	
	C168	QETB1HM-475	4.7MF	50V	ELECTRO	
	C169	QCF21HP-223	0.022MF	50V	CERAMIC	
	C170	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C171	QETB1EM-106	10MF	25V	ELECTRO	
	C172	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C173	QFN81HK-393	0.039MF	50V	MYLAR	A
	C173	QFN81HK-393	0.039MF	50V	MYLAR	B
	C173	QFN81HK-223	0.022MF	50V	MYLAR	C
	C173	QFN81HK-223	0.022MF	50V	MYLAR	D
	C173	QFN81HK-223	0.022MF	50V	MYLAR	E
	C173	QFN81HK-223	0.022MF	50V	MYLAR	F
	C173	QFN81HK-223	0.022MF	50V	MYLAR	G
	C173	QFN81HK-223	0.022MF	50V	MYLAR	I
	C174	QFLC1HK-473	0.047MF	50V	CERAMIC	
	C175	QETB1EM-106	10MF	25V	ELECTRO	
	C176	QCY21HK-102	1000PF	50V	CERAMIC	
	C177	QCS21HJ-821	820PF	50V	CERAMIC	A
	C177	QCS21HJ-821	820PF	50V	CERAMIC	B
	C177	QCS21HJ-391	390PF	50V	CERAMIC	C
	C177	QCS21HJ-391	390PF	50V	CERAMIC	D
	C177	QCS21HJ-391	390PF	50V	CERAMIC	E
	C177	QCS21HJ-561	560PF	50V	CERAMIC	F
	C177	QCS21HJ-391	390PF	50V	CERAMIC	G
	C177	QCS21HJ-391	390PF	50V	CERAMIC	I
	C178	QCS21HJ-821	820PF	50V	CERAMIC	A
	C178	QCS21HJ-821	820PF	50V	CERAMIC	B
	C178	QCS21HJ-391	390PF	50V	CERAMIC	C
	C178	QCS21HJ-391	390PF	50V	CERAMIC	D
	C178	QCS21HJ-391	390PF	50V	CERAMIC	E
	C178	QCS21HJ-561	560PF	50V	CERAMIC	F
	C178	QCS21HJ-391	390PF	50V	CERAMIC	G
	C178	QCS21HJ-391	390PF	50V	CERAMIC	I
	C179	QETB1HM-225	2.2MF	50V	ELECTRO	
	C180	QETB1HM-225	2.2MF	50V	ELECTRO	
	C181	QETB1EM-106	10MF	25V	ELECTRO	
	C182	QETB1HM-225	2.2MF	50V	ELECTRO	
	C183	QETB1HM-105	1MF	50V	ELECTRO	
	C184	QETB1HM-105	1MF	50V	ELECTRO	
	C185	QETB1HM-225	2.2MF	50V	ELECTRO	
	C186	QETB1HM-474	0.47MF	50V	ELECTRO	
	C187	QFN81HK-332	3300PF	50V	MYLAR	
	C188	QFN81HK-332	3300PF	50V	MYLAR	
	C189	QFN81HK-182	1800PF	50V	MYLAR	
	C190	QFN81HK-182	1800PF	50V	MYLAR	
	C191	QETB1HM-475	4.7MF	50V	ELECTRO	
	C192	QCC21EM-473	0.047MF	25V	CERAMIC	
	C193	QCS21HJ-180	18PF	50V	CERAMIC	
	C194	QCS21HJ-180	18PF	50V	CERAMIC	
	C195	QEN51HM-474	0.47MF	50V	NON POLE	
	C196	QCY21HK-102	1000PF	50V	CERAMIC	
	C197	QCF21HP-223	0.022MF	50V	CERAMIC	
	C198	QCF21HP-103	0.01MF	50V	CERAMIC	
	C199	QETB1HM-475	4.7MF	50V	ELECTRO	
	C204	QCT26CH-120	12PF	50V	CERAMIC	
	C205	QCZ0202-155	1.5MF	25V	CERAMIC	
	C206	QCF21HP-103	0.01MF	50V	CERAMIC	
	C207	QCF21HP-223	0.022MF	50V	CERAMIC	
	C209	QCF21HP-103	0.01MF	50V	CERAMIC	
	C210	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C211	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C221	QETB0JM-477	470MF	6.3V	ELECTRO	
	C222	QETB1CM-477	470MF	16V	ELECTRO	
	C223	QCF21HP-103	0.01MF	50V	CERAMIC	
	C224	QCF21HP-102	1000PF	50V	CERAMIC	
	C225	QCGB1HK-102	1000PF	50V	CERAMIC	
	C227	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C229	QETB1CM-477	470MF	16V	ELECTRO	
	C231	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C232	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C241	QCF21HP-223	0.022MF	50V	CERAMIC	
	C250	QCY21HK-471	470PF	50V	CERAMIC	
	C281	QETB1HM-475	4.7MF	50V	ELECTRO	
	C282	QCF21HP-103	0.01MF	50V	CERAMIC	
	C283	QETB1HM-106	10MF	50V	ELECTRO	
	C299	QCF21HP-103	0.01MF	50V	CERAMIC	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R118	QRD167J-332	3.3K	1/6W	CARBON	
	R119	QRD167J-221	220	1/6W	CARBON	
	R121	QRD167J-391	390	1/6W	CARBON	
	R122	QRD167J-272	2.7K	1/6W	CARBON	
	R123	QRD167J-102	1K	1/6W	CARBON	
	R124	QRD167J-681	680	1/6W	CARBON	
	R125	QRD167J-332	3.3K	1/6W	CARBON	
	R126	QRD167J-221	220	1/6W	CARBON	
	R131	QRD167J-331	330	1/6W	CARBON	
	R132	QRD167J-103	10K	1/6W	CARBON	
	R133	QRD167J-473	47K	1/6W	CARBON	
	R134	QRD167J-103	10K	1/6W	CARBON	D
	R134	QRD167J-103	10K	1/6W	CARBON	E
	R134	QRD167J-103	10K	1/6W	CARBON	F
	R134	QRD167J-103	10K	1/6W	CARBON	G
	R134	QRD167J-103	10K	1/6W	CARBON	I
	R135	QRD167J-470	47	1/6W	CARBON	
	R136	QRD167J-103	10K	1/6W	CARBON	
	R141	QRD167J-472	4.7K	1/6W	CARBON	D
	R141	QRD167J-472	4.7K	1/6W	CARBON	E
	R141	QRD167J-472	4.7K	1/6W	CARBON	F
	R141	QRD167J-472	4.7K	1/6W	CARBON	G
	R141	QRD167J-472	4.7K	1/6W	CARBON	I
	R142	QRD167J-331	330	1/6W	CARBON	D
	R142	QRD167J-331	330	1/6W	CARBON	E
	R142	QRD167J-331	330	1/6W	CARBON	F
	R142	QRD167J-331	330	1/6W	CARBON	G
	R142	QRD167J-331	330	1/6W	CARBON	I
	R143	QRD167J-103	10K	1/6W	CARBON	D
	R143	QRD167J-103	10K	1/6W	CARBON	E
	R143	QRD167J-103	10K	1/6W	CARBON	F
	R143	QRD167J-103	10K	1/6W	CARBON	G
	R143	QRD167J-103	10K	1/6W	CARBON	I
	R144	QRD167J-473	47K	1/6W	CARBON	D
	R144	QRD167J-473	47K	1/6W	CARBON	E
	R144	QRD167J-473	47K	1/6W	CARBON	F
	R144	QRD167J-473	47K	1/6W	CARBON	G
	R144	QRD167J-473	47K	1/6W	CARBON	I
	R145	QRD167J-103	10K	1/6W	CARBON	D
	R145	QRD167J-103	10K	1/6W	CARBON	E
	R145	QRD167J-103	10K	1/6W	CARBON	F
	R145	QRD167J-103	10K	1/6W	CARBON	G
	R145	QRD167J-103	10K	1/6W	CARBON	I
	R146	QRD167J-560	56	1/6W	CARBON	
	R147	QRD167J-103	10K	1/6W	CARBON	
	R148	QRD167J-103	10K	1/6W	CARBON	
	R149	QRD167J-223	22K	1/6W	CARBON	
	R150	QRD167J-103	10K	1/6W	CARBON	
	R151	QRD167J-222	2.2K	1/6W	CARBON	
	R153	QRD167J-103	10K	1/6W	CARBON	
	R154	QRD167J-103	10K	1/6W	CARBON	
	R155	QRD167J-562	5.6K	1/6W	CARBON	
	R156	QRD167J-822	8.2K	1/6W	CARBON	
	R157	QRD167J-103	10K	1/6W	CARBON	
	R158	QRD167J-183	18K	1/6W	CARBON	A
	R158	QRD167J-273	27K	1/6W	CARBON	B
	R158	QRD167J-273	27K	1/6W	CARBON	C
	R158	QRD167J-273	27K	1/6W	CARBON	D
	R158	QRD167J-273	27K	1/6W	CARBON	E
	R158	QRD167J-273	27K	1/6W	CARBON	F
	R158	QRD167J-273	27K	1/6W	CARBON	G
	R158	QRD167J-273	27K	1/6W	CARBON	I
	R159	QRD167J-561	560	1/6W	CARBON	
	R160	QRD167J-562	5.6K	1/6W	CARBON	A
	R160	QRD167J-562	5.6K	1/6W	CARBON	B
	R160	QRD167J-183	18K	1/6W	CARBON	C
	R160	QRD167J-183	18K	1/6W	CARBON	D
	R160	QRD167J-183	18K	1/6W	CARBON	E
	R160	QRD167J-822	8.2K	1/6W	CARBON	F
	R160	QRD167J-183	18K	1/6W	CARBON	G
	R160	QRD167J-183	18K	1/6W	CARBON	I
	R161	QRD167J-823	82K	1/6W	CARBON	A
	R161	QRD167J-823	82K	1/6W	CARBON	B
	R161	QRD167J-124	120K	1/6W	CARBON	C
	R161	QRD167J-124	120K	1/6W	CARBON	D
	R161	QRD167J-124	120K	1/6W	CARBON	E
	R161	QRD167J-823	82K	1/6W	CARBON	F
	R161	QRD167J-124	120K	1/6W	CARBON	G
	R161	QRD167J-124	120K	1/6W	CARBON	I
	R162	QRD167J-823	82K	1/6W	CARBON	A
	R162	QRD167J-823	82K	1/6W	CARBON	B
	R162	QRD167J-124	120K	1/6W	CARBON	C
	R162	QRD167J-124	120K	1/6W	CARBON	D
	R162	QRD167J-124	120K	1/6W	CARBON	E
	R162	QRD167J-823	82K	1/6W	CARBON	F
	R162	QRD167J-124	120K	1/6W	CARBON	G
	R162	QRD167J-124	120K	1/6W	CARBON	I
	R163	QRD167J-472	4.7K	1/6W	CARBON	A
	R163	QRD167J-472	4.7K	1/6W	CARBON	B
	R163	QRD167J-392	3.9K	1/6W	CARBON	C
	R163	QRD167J-392	3.9K	1/6W	CARBON	D
	R163	QRD167J-392	3.9K	1/6W	CARBON	E
	R163	QRD167J-392	3.9K	1/6W	CARBON	F
	R163	QRD167J-392	3.9K	1/6W	CARBON	G
	R163	QRD167J-392	3.9K	1/6W	CARBON	I

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R164	QRD167J-472	4.7K 1/6W CARBON	A
	R164	QRD167J-472	4.7K 1/6W CARBON	B
	R164	QRD167J-392	3.9K 1/6W CARBON	C
	R164	QRD167J-392	3.9K 1/6W CARBON	D
	R164	QRD167J-392	3.9K 1/6W CARBON	E
	R164	QRD167J-392	3.9K 1/6W CARBON	F
	R164	QRD167J-392	3.9K 1/6W CARBON	G
	R164	QRD167J-392	3.9K 1/6W CARBON	I
	R165	QRD167J-184	180K 1/6W CARBON	A
	R165	QRD167J-184	180K 1/6W CARBON	B
	R165	QRD167J-274	270K 1/6W CARBON	C
	R165	QRD167J-274	270K 1/6W CARBON	D
	R165	QRD167J-274	270K 1/6W CARBON	E
	R165	QRD167J-274	270K 1/6W CARBON	F
	R165	QRD167J-274	270K 1/6W CARBON	G
	R165	QRD167J-274	270K 1/6W CARBON	I
	R166	QRD167J-184	180K 1/6W CARBON	A
	R166	QRD167J-184	180K 1/6W CARBON	B
	R166	QRD167J-274	270K 1/6W CARBON	C
	R166	QRD167J-274	270K 1/6W CARBON	D
	R166	QRD167J-274	270K 1/6W CARBON	E
	R166	QRD167J-274	270K 1/6W CARBON	F
	R166	QRD167J-274	270K 1/6W CARBON	G
	R166	QRD167J-274	270K 1/6W CARBON	I
	R167	QRD167J-393	39K 1/6W CARBON	A
	R167	QRD167J-393	39K 1/6W CARBON	B
	R167	QRD167J-473	47K 1/6W CARBON	C
	R167	QRD167J-473	47K 1/6W CARBON	D
	R167	QRD167J-473	47K 1/6W CARBON	E
	R167	QRD167J-473	47K 1/6W CARBON	F
	R167	QRD167J-473	47K 1/6W CARBON	G
	R167	QRD167J-473	47K 1/6W CARBON	I
	R168	QRD167J-103	10K 1/6W CARBON	
	R169	QRD167J-103	10K 1/6W CARBON	
	R171	QRD167J-682	6.8K 1/6W CARBON	
	R172	QRD167J-682	6.8K 1/6W CARBON	
	R180	QRD167J-103	10K 1/6W CARBON	
	R181	QRD167J-222	2.2K 1/6W CARBON	
	R182	QRD167J-181	180 1/6W CARBON	
	R190	QRD167J-103	10K 1/6W CARBON	
	R191	QRD167J-562	5.6K 1/6W CARBON	
	R193	QRD167J-103	10K 1/6W CARBON	
	R194	QRD167J-103	10K 1/6W CARBON	
	R195	QRD167J-473	47K 1/6W CARBON	
	R196	QRD167J-103	10K 1/6W CARBON	A
	R196	QRD167J-103	10K 1/6W CARBON	B
	R196	QRD167J-103	10K 1/6W CARBON	C
	R196	QRD167J-222	2.2K 1/6W CARBON	D
	R196	QRD167J-222	2.2K 1/6W CARBON	E
	R196	QRD167J-222	2.2K 1/6W CARBON	F
	R196	QRD167J-222	2.2K 1/6W CARBON	G
	R196	QRD167J-222	2.2K 1/6W CARBON	I
	R197	QRD167J-222	2.2K 1/6W CARBON	
	R198	QRD167J-332	3.3K 1/6W CARBON	A
	R198	QRD167J-332	3.3K 1/6W CARBON	B
	R198	QRD167J-332	3.3K 1/6W CARBON	C
	R198	QRD167J-822	8.2K 1/6W CARBON	D
	R198	QRD167J-822	8.2K 1/6W CARBON	E
	R198	QRD167J-822	8.2K 1/6W CARBON	F
	R198	QRD167J-822	8.2K 1/6W CARBON	G
	R198	QRD167J-822	8.2K 1/6W CARBON	I
	R199	QRD167J-472	4.7K 1/6W CARBON	
	R205	QRD167J-473	47K 1/6W CARBON	
	R209	QRD167J-104	100K 1/6W CARBON	
	R228	QRD167J-222	2.2K 1/6W CARBON	
⚠	R229	QRD14CJ-220S	22 1/4W UNF.CARBON	
	R231	QRD167J-103	10K 1/6W CARBON	
	R232	QRD167J-153	15K 1/6W CARBON	
	R281	QRD167J-104	100K 1/6W CARBON	
	R282	QRD167J-104	100K 1/6W CARBON	
	R283	QRD167J-104	100K 1/6W CARBON	
	R284	QRD167J-474	470K 1/6W CARBON	

⚠ : IS A FEDTY PIARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E12260-002	CIRCUIT BOARD	
	J252	EMV7122-103	CONNECTOR	B
	J283	EMV7122-103	CONNECTOR	
	J489	EMV7122-004	CONNECTOR	
	L101	EQL4004-1R0	INDUCTOR	
	L106	EQL3001-102K	INDUCTOR	
	L111	EQL2103-393	INDUCTOR	
	L112	EQL2103-393	INDUCTOR	
	L120	EQL4004-1R0	INDUCTOR	E
	L120	EQL4004-1R0	INDUCTOR	G
	S151	QSS6A12-E01	SLIDE SWITCH	
	S152	QSS6A12-E01	SLIDE SWITCH	B
	S200	ESP0001-018	TACT SWITCH	
	S201	ESP0001-018	TACT SWITCH	
	S202	ESP0001-018	TACT SWITCH	
	S210	ESP0001-018	TACT SWITCH	
	S211	ESP0001-018	TACT SWITCH	
	S212	ESP0001-018	TACT SWITCH	
	S214	ESP0001-018	TACT SWITCH	
	S220	ESP0001-018	TACT SWITCH	
	S221	ESP0001-018	TACT SWITCH	
	S222	ESP0001-018	TACT SWITCH	
	S224	ESP0001-018	TACT SWITCH	
	S230	ESP0001-018	TACT SWITCH	
	S232	ESP0001-018	TACT SWITCH	
	S234	ESP0001-018	TACT SWITCH	
	T101	EQR1111-014	AM RF COIL	
	T102	EQR1111-005	AM RF COIL	D
	T102	EQR1111-005	AM RF COIL	E
	T102	EQR1111-005	AM RF COIL	F
	T102	EQR1111-005	AM RF COIL	G
	T102	EQR1111-005	AM RF COIL	I
	T103	EQR1207-015	MW OSC COIL	
	T104	EQR1307-009	LW OSC COIL	D
	T104	EQR1307-009	LW OSC COIL	E
	T104	EQR1307-009	LW OSC COIL	F
	T104	EQR1307-009	LW OSC COIL	G
	T104	EQR1307-009	LW OSC COIL	I
	T105	EQT2140-017	I.F. TRANSFORMER	
	T107	ECB1560-008	CERAMIC FILTER	
	AT101	EMB41YV-401K	ANTENNA TERMINAL	A
	AT101	EMB41YV-401K	ANTENNA TERMINAL	B
	AT101	EMB41YV-401K	ANTENNA TERMINAL	C
	AT101	EMB41YV-401K	ANTENNA TERMINAL	D
	AT101	EMB41YV-301K	ANTENNA TERMINAL	E
	AT101	EMB41YV-401K	ANTENNA TERMINAL	F
	AT101	EMB41YV-301K	ANTENNA TERMINAL	G
	AT101	EMB41YV-301K	ANTENNA TERMINAL	I
	CF101	ECB2123-006R	CERAMIC FILTER	A
	CF101	ECB2123-006R	CERAMIC FILTER	B
	CF101	ECB2123-006R	CERAMIC FILTER	C
	CF101	ECB2118-006R	CERAMIC FILTER	D
	CF101	ECB2118-006R	CERAMIC FILTER	E
	CF101	ECB2118-006R	CERAMIC FILTER	F
	CF101	ECB2118-006R	CERAMIC FILTER	G

⚠ : IS A FEDTY PIARTS

http://www.ManualsCenter.com

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	CF101	ECB2118-006R	CERAMIC FILTER	I
	CF102	ECB2123-006R	CERAMIC FILTER	A
	CF102	ECB2123-006R	CERAMIC FILTER	B
	CF102	ECB2123-006R	CERAMIC FILTER	C
	CF102	ECB2118-006R	CERAMIC FILTER	D
	CF102	ECB2118-006R	CERAMIC FILTER	E
	CF102	ECB2118-006R	CERAMIC FILTER	F
	CF102	ECB2118-006R	CERAMIC FILTER	G
	CF102	ECB2118-006R	CERAMIC FILTER	I
	EP102	E70859-001	EARTH PLATE	
	EP103	E70859-001	EARTH PLATE	
	EP110	E70225-001	EARTH PLATE	
	EP251	E70225-001	EARTH PLATE	
	EP252	E70225-001	EARTH PLATE	
	FE101	EAF2203-001	FRONT END	A
	FE101	EAF2203-001	FRONT END	B
	FE101	EAF2203-001	FRONT END	C
	FE101	EAF2203-001	FRONT END	D
	FE101	EAF2203-002	FRONT END	E
	FE101	EAF2203-001	FRONT END	F
	FE101	EAF2203-002	FRONT END	G
	FE101	EAF2203-001	FRONT END	I
	FL201	ELU0001-101	FL TUBE	
	FS201	E3400-449	SPACER	
	FW001	EWP902-015	FLAT WIRE	
	FW101	EWR39B-25LST	FLAT WIRE	
	FW102	EWR37B-25LST	FLAT WIRE	A
	FW102	EWR39B-25LST	FLAT WIRE	B
	FW102	EWR37B-25LST	FLAT WIRE	C
	FW102	EWR37B-25LST	FLAT WIRE	D
	FW102	EWR37B-25LST	FLAT WIRE	E
	FW102	EWR37B-25LST	FLAT WIRE	F
	FW102	EWR37B-25LST	FLAT WIRE	G
	FW102	EWR37B-25LST	FLAT WIRE	I
	FW103	EWR37B-08SST	FLAT WIRE	
	FW251	EWR33B-08LST	FLAT WIRE	
	FW252	EWR33B-30LST	FLAT WIRE	B
	FW281	EWR33B-20SST	FLAT WIRE	
	FW283	EWR33B-25LST	FLAT WIRE	
	JB211	EMV7130-011	CONNECTOR	
	JT101	EMV7122-004	CONNECTOR	
	JT102	EMV7122-005	CONNECTOR	
	JT103	EMV7122-004	CONNECTOR	
	JT104	EMV7122-103	CONNECTOR	A
	JT104	EMV7122-005	CONNECTOR	B
	JT104	EMV7122-103	CONNECTOR	C
	JT104	EMV7122-103	CONNECTOR	D
	JT104	EMV7122-103	CONNECTOR	E
	JT104	EMV7122-103	CONNECTOR	F
	JT104	EMV7122-103	CONNECTOR	G
	JT104	EMV7122-103	CONNECTOR	I
	LP102	EQF01C2-001	LOW PASS FILTER	E
	LP102	EQF0102-001	LOW PASS FILTER	G
	SF101	EQF0201-006	BAND PASS FILTER	E
	SF101	EQF0201-006	BAND PASS FILTER	G
	TC105	ENZ1003-006	TRIMMER	
	TC106	ENZ1003-006	TRIMMER	D
	TC106	ENZ1003-006	TRIMMER	E
	TC106	ENZ1003-006	TRIMMER	F
	TC106	ENZ1003-006	TRIMMER	G
	TC106	ENZ1003-006	TRIMMER	I
	TC201	ENZ1003-015	TRIMMER	
	XT102	ECX0007-200KC	RESONATOR	
	XT103	ECX0000-456KR	RESONATOR	
	XT201	ECX4194-304CF	RESONATOR	

⚠ : SAFETY PARTS

—MEMO—

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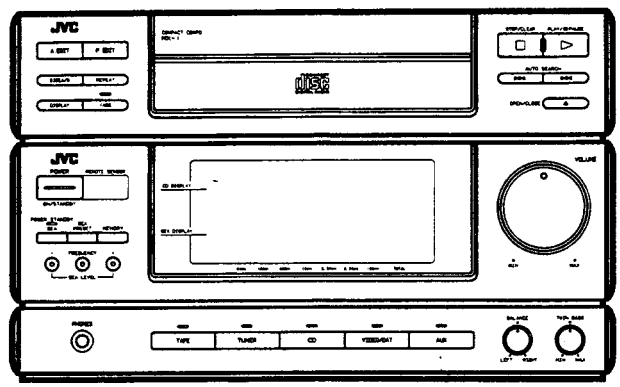
JVC

SERVICE MANUAL

AX-MX1BK

UNIT No. **AX-MX1LBK**

(FOR CA-MX1BK/LBK)



COMPACT disc DIGITAL AUDIO

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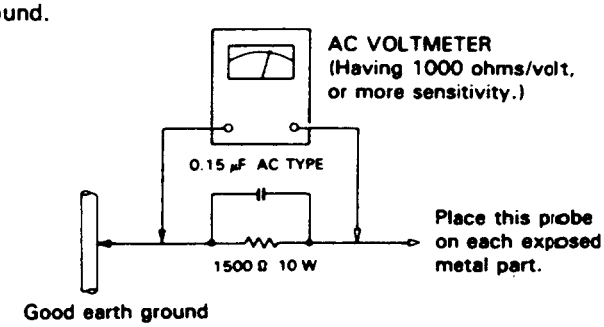
No. 20179
Apr. 1990

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5 mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

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Important for Laser Products

1. CLASS 1 LASER PRODUCT
2. DANGER: Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. CAUTION: There are no serviceable parts inside the Laser Unit.
4. CAUTION: Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
5. CAUTION: The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
6. CAUTION: If safety switches malfunction, the laser is able to function.
7. CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

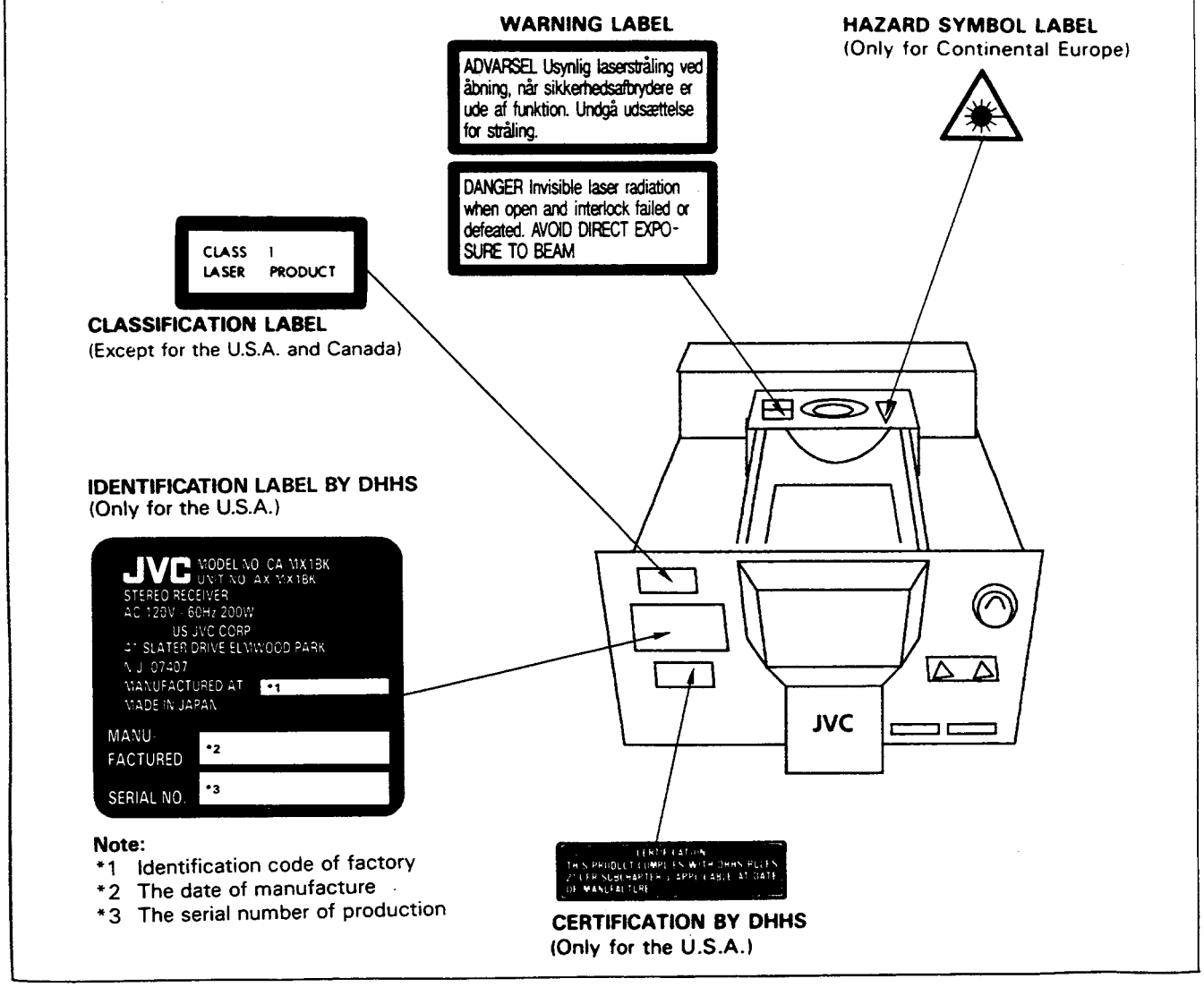
VARNING: OSYNLIG LASERSTRÅLNING UPPSTÅR VID KOMPONENTENS ÖPPNING NÄR SÄKERHETSBRYTAREN ÄR FRÅNSLAGEN.

ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION.
UNDGÅ UDSÆTTELSE FOR STRÅLING.

ADVARSEL: USYNLIG LASERSTRÅLING VED ÅPNING NÅR SIKKERHETSBRYTEREN ER AVSLOTT.
UNNGÅ UTSETTELSE FOR STRÅLING.

VAROITUS: LAITE SISÄLTÄÄ LASERDIODIN, JOKA LÄHETTÄÄ (NÄKYMÄTÖNTÄ) SILMILLE VAARALLISTA LASERSÄTEILYÄ.

REPRODUCTION AND POSITION OF LABELS



Note:
*1 Identification code of factory
*2 The date of manufacture
*3 The serial number of production

Specifications

CD / Amplifier Component

	Dimensions	10-7/8x6-3/4x12-3/8 inches (275x170x314 mm)
	Weight	15.0lbs (6.8kg)
Ampifier	Output Power	Main (SPEAKERS A): **30 watts per channel, min. RMS, both channels driven into 8 ohms, from 20Hz to 20kHz, with no more than 0.9% total harmonic distortion.** Subwoofer (SPEAKERS B): 20 watts per channel, into 3 ohms, at 80Hz, with 0.9% total harmonic distortion.
	Total Harmonic Distortion at Half-Rated Power	0.3%
	Input Sensitivity/ Impedance (1kHz) VIDEO/DAT, AUX	300mV/40k ohms
	SEA Center Frequencies	63, 160, 400, 1k, 2.5k, 6.3k, 16kHz
	SEA Control Range	± 10dB
Compact Disc Player	Dynamic Range (1kHz)	90dB
	Signal-to-Noise Ratio	100dB
	Frequency Response	5Hz-20kHz
	Wow and Flutter	Unmeasurable

Tape Deck / Tuner Component

	Dimensions	10-7/8x6-3/4x10-3/4 inches (275x170x273 mm)
	Weight	7.3 lbs (3.3 kg)
Tape Deck	Frequency Response	Metal : 30-17,000Hz CrO_2 : 30-16,000Hz Normal: 30-15,000Hz
	Wow and Flutter	0.08% (WRMS)
FM Tuner	Usable Sensitivity	0.95µV/75 ohms (10.8dBf)
	Signal-to-Noise Ratio (1HF-A Weighted)	MONO (at 85dBf) 80dB STEREO (at 85dB) 73dB

General

Power Requirements	AC120V∿, 60 Hz
Power Consumption	200 watts

Design and specifications subject to change without notice.

Explanation of Power Engine

1. **Outline**

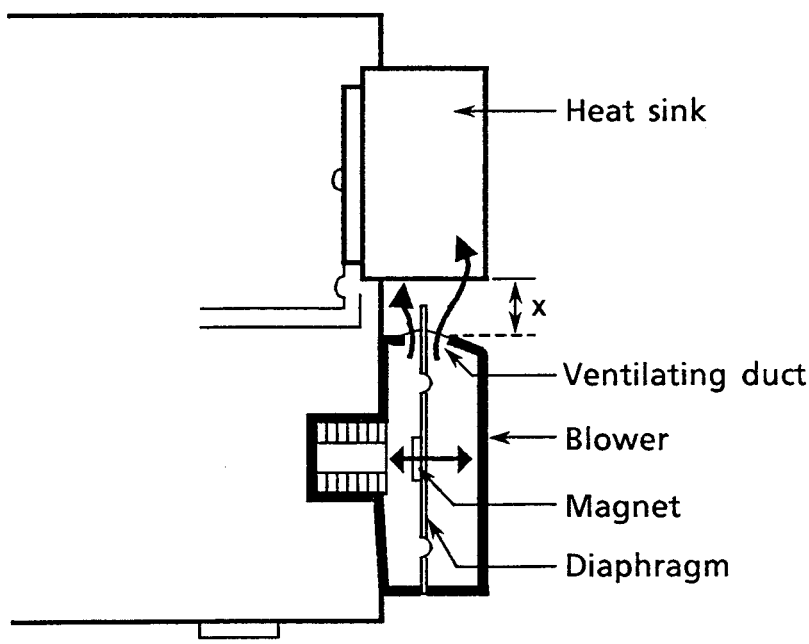
Power engine is meaning of blower which gives a breeze to the heat sink by vibration such as a speaker's corn.
This is installed under the heat sink and it is cooled compulsorily.
By using the power engine, the heat sink dimensions are able to make a 1/4 than normal venturation's heat sink, and then it is possible to make a small size amplifier.
Microprocessor detects the temperature of heat sink through thermistor, and the breeze which is three types blows the heat sink.

2. **Principle**

The temperature of the heat sink is detected a changed resistor's value of the thermistor and the signal inputs to microprocessor. The microprocessor judges the heat sink temperature and selects a suitable operation from 6 steps, and then a driving signal goes to power engine.

3. **Power engine operations**

"Temperature"	"Operation"
~50°C	Power engine off
50°C~75°C	10Hz
75°C~100°C	14Hz
100°C~120°C	16Hz
120°C~150°C	Speaker relay off
150°C~	Power primary off

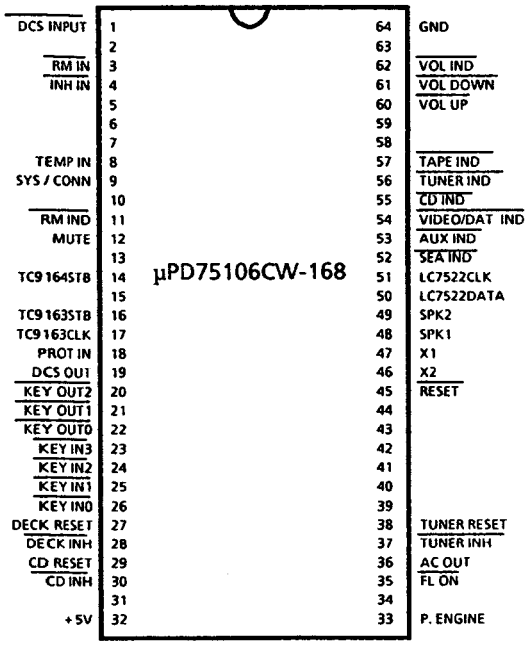


Structure of Power Engine

Description of Major LSIs

■ µPD75106CW168(IC502) : SYSTEM CONTROLLER

1. Terminal Layout



2. KEY matrix

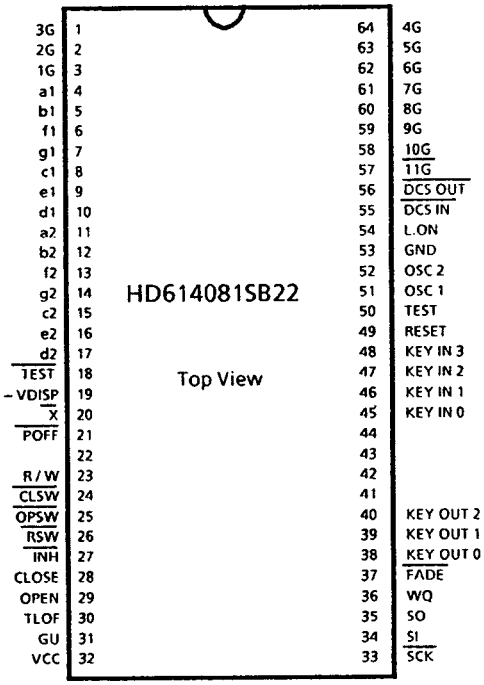
	KEY IN 0	KEY IN 1	KEY IN2	KEY IN3
KEY OUT 0	AUX	TUNER	MEMORY	POWER
KEY OUT 1	VIDEO / DAT	TAPE	SEA PRESET	SEA
KEY OUT 2	CD	f △	f	f ▽

3. Pin Function Description

Pin NO.	symbol	I/O	Function and Operations	Pin NO.	symbol	I/O	Function and Operations
1	DCS INPUT	I	Compulink signal input	33	P.ENGINE	O	Power engine controll signal output
2		–	Connected to GND	34		–	Non connect
3	RM IN	I	Remote controll signal input	35	FL ON	O	FL ON signal output
4	INH IN	I	System inhibit signal input	36	AC OUT	O	Power primary OFF signal
5		–	Connected to GND	37	TUNER INH	O	Tuner inhibit signal output
6		–	Connected to GND	38	TUNER RESET	O	Tuner reset signal output
7		–	Connected to GND	39		–	Non connect
8	TEMP IN	I	Temprature detecting port	40		–	Non connect
9	SYS/CONN	I	System connecting check port	41		–	Non connect
10		–	Pull up(+ 5V)	42		–	Non connect
11	RM IND	–	Non connect	43		–	Non connect
12	MUTE	O	Mute signal ouput	44		–	Non connect
13		–	Non connect	45	RESET	I	System reset signal input
14	TC9163STB	O	Strobe signal output (To TN9163N)	46	X2	O	Clock oscillation output
15		–	Connected to GND	47	X1	I	Clock oscillation input
16	TC9163DATA	O	Serial data output (To TN9163N)	48	SPK 1	O	Speaker relay on signal output
17	TC9161CLK	O	Clock signal output (To TN9163N)	49	SPK 2	–	Non connect
18	PROT IN	I	Signal from protector	50	LC7522DATA	O	Serial data output (To LC7522)
19	DCS OUT	O	Compulink signal output	51	LC7522CLK	O	Clock signal output (To LC7522)
20	KEY OUT 2	O	Key matrix output	52	SEA IND	O	SEA indicator signal output
21	KEY OUT 1	O	Key matrix output	53	AUX IND	O	AUX indicator signal output
22	KEY OUT 0	O	Key matrix output	54	V / DAT IND	O	VIDEO / DAT indicator signal output
23	KEY IN 3	I	Key matrix input	55	CD IND	O	CD indicator signal output
24	KEY IN 2	I	Key matrix input	56	TUNER IND	O	TUNER indicator signal output
25	KEY IN 1	I	Key matrix input	57	TAPE IND	O	TAPE indicator signal output
26	KEY IN 0	I	Key matrix input	58		–	Non connect
27	DECK RESET	O	Deck reset signal output	59		–	Non connect
28	DECK INH	O	Deck inhibit signal output	60	VOL UP	O	Volume up signal output
29	CD RESET	O	CD reset signal output	61	VOL DOWN	O	Volume down signal output
30	CD INH	O	CD inhibit signal output	62	VOL IND	–	Non connect
31		–	Non connect	63		–	Non connect
32	Vcc	–	Power supply voltage (+ 5V)	64	GND	–	

■ HD614081SB22(IC951) : CD SYSTEM CONTROLLER

1. Terminal Layout



2. Key Matrix

	KEY IN 0	KEY IN 1	KEY IN2	KEY IN3
KEY OUT 0	⏏		FADE	TIME
KEY OUT 1	⏭	⏮	REPEAT	SIDE A/B
KEY OUT 2	PLAY / PAUSE	STOP CLR	PROG EDIT	AUTO EDIT

3. Pin Function Description

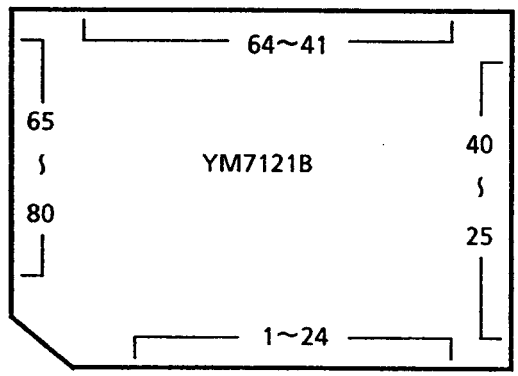
Pin NO.	symbol	I/O	Function and Operations
1	3G	O	FL grid control output
2	2G	O	FL grid control output
3	1G	O	FL grid control output
4	a1	O	FL segment control output
5	b1	O	FL segment control output
6	f1	O	FL segment control output
7	g1	O	FL segment control output
8	c1	O	FL segment control output
9	e1	O	FL segment control output
10	d1	O	FL segment control output
11	a2	O	FL segment control output
12	b2	O	FL segment control output
13	f2	O	FL segment control output
14	g2	O	FL segment control output
15	c2	O	FL segment control output
16	e2	O	FL segment control output
17	d2	O	FL segment control output
18	TEST	I	Entering test mode with TEST(L)
19	-VDISP	I	Power supply for FL display
20	X	O	
21	POFF	O	CD OFF signal
22		--	Non connect
23	R/W	O	Read / write signal output
24	CLSW	I	"L" with tray closed
25	OPSW	I	"L" with tray opened
26	RSW	I	"L" with pickup rest position
27	INH	I	Inhibit signal input port
28	CLOSE	O	"CLOSE" signal output
29	OPEN	O	"OPEN" signal output
30	TLOF	O	Turns off tracking servo
31	GU	O	Increases tracking gain
32	VCC	--	Power supply voltage (+ 5V)
33	SCK	O	Clock output
34	SI	O	Serial data output
35	SO	I	Serial data input
36	WQ	I/O	Write request input
37	FADE	O	FADE INDICATOR OUTPUT
38	KEY OUT 0	O	Key matrix output
39	KEY OUT 1	O	Key matrix output
40	KEY OUT 2	O	Key matrix output
41		--	Non connect
42		--	Non connect
43		--	Non connect
44		--	Non connect
45	KEY IN 0	I	Key matrix input
46	KEY IN 1	I	Key matrix input
47	KEY IN 2	I	Key matrix input
48	KEY IN 3	I	Key matrix input
49	RESET	I	Reset signal input
50	TEST		PULL UP (+ 5V)
51	OSC 1	I	Clock oscillation input
52	OSC 2	O	Clock oscillation output
53	GND		
54	L.ON	O	Turns on laser
55	DCS IN	I	Compulink signal input
56	DCS OUT	O	Compulink signal output
57	11G	O	FL grid control output
58	10G	O	FL grid control output
59	9G	O	FL grid control output
60	8G	O	FL grid control output
61	7G	O	FL grid control output
62	6G	O	FL grid control output
63	5G	O	FL grid control output
64	4G	O	FL grid control output

■YM7121B(IC841)

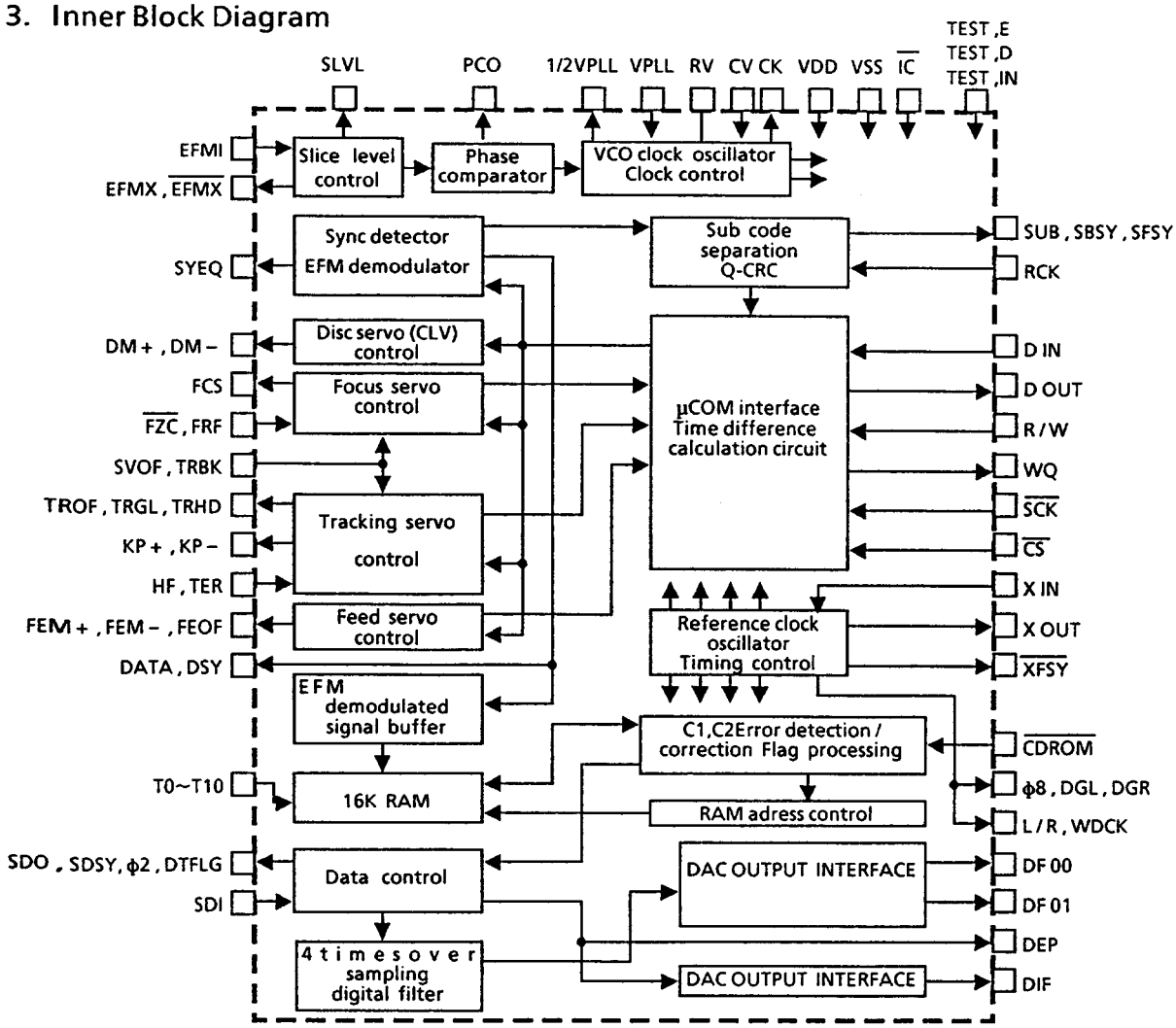
1. Outline

YM7121 is a C-MOS LSI for signal processing and servo control (SVC) in a CD player. It is used for the demodulation of the EFM signal from the laser pick up , detection / correction of the error signal , signal processing in digital filtering , etc. and for various servo controls (focusing , disc , tracking and feed servos).

2. Top View



3. Inner Block Diagram



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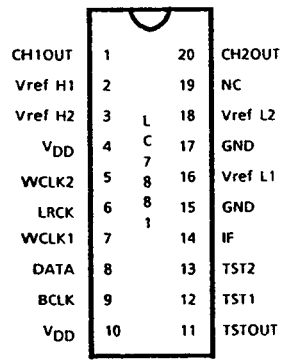
4. Terminal Function

Pin No.	Symbol	I/O	Function and Operation
1	CV	—	Adequate time constant is added to this terminal and input the PCO output. This makes the structure of clock reproduce circuit by inner VCO circuit.
2	RV	—	RV terminal is standard voltage terminal of inner VCO. And capacity for stabilizing is added to this terminal.
3 32 72	VDD	—	These are +5V power supply terminals.
4 5 70	TEST. IN TEST. E TEST. D	I I I	These terminals are for test. **(Not used)**
6	SYEQ	O	This is the check output terminal, it becomes high when flame synchronizing signal detected from EFM pattern coincides frame synchronizing signal from internal counter.
7	DSY	O	DSY is synchronizing signal which becomes high when first signal of data output comes in. This terminal is the check terminal. **(Not used)**
8	DATA	O	This terminal is for checks. The DATA is a serial signal of CK bit rate and it contains 8 bit EFM demodulation signal and 5 bit data control signal in 17 bit. **(Not used)**
9	CK	O	CK has 4.3218 MHz clock.
10~19	T0~T9	I	This terminal is internal RAM test terminal, and connected GND.
22	DEP	O	De-emphasis is necessary when this terminal is high.
23	DIF	O	DIF is digital audio interface format output matched EIAJ standards. **(Not used)**
24	SDO	O	SDO is a serial signal output of $\phi 2$ bit rate. (The MSB puts in at first.)
25	SDI	I	SDI is the input terminal of 4 times over sampling digital filter. It is usually connected with SDO.
26	SDSY	O	This terminal changes the Lch/Rch by LSB of the SDO. **(Not used)**
27	DTFLG	O	Not used.
28	$\phi 2$	O	$\phi 2$ is 2.1168 MHz crystal clock. **(Not used)**
29, 52, 77	VSS	—	GND
30	XOUT	O	Not used.
31	XIN	I	Input from crystal clock.
33 34 35 36 37 38	$\overline{XFSY}$ SUB SBSY RCK SFSY $\overline{CDROM}$	O O O I O O	Not used.
39	$\Phi 8$	O	
40	WDCK	O	Synchronizing signal
41	L/R	O	Synchronizing signal
42 43 44	DGL DGR DF01	- - -	Not used.
45	DF00	O	Serial ssignal with $\Phi 8$ bit rate
46	$\overline{SCK}$	I	This terminal is connected to µCOM. It is an input terminal that carries the clock signal for data transfers.
47	R/W	I	This connects with microcomputer and it is an output terminal for switching data transmission mode. it enables to transmit data from SVC to microcomputer when R/M is "L" and from microcomputer to SVC when R/W is "H".
48	$\overline{CS}$	I	This is a chip select terminal for YM7121.
49	DOUT	O	This terminal is the data output terminal connected to µCOM. When R/W is low, data is transferred from YM7121 to µCOM, according to theSCK clock input.

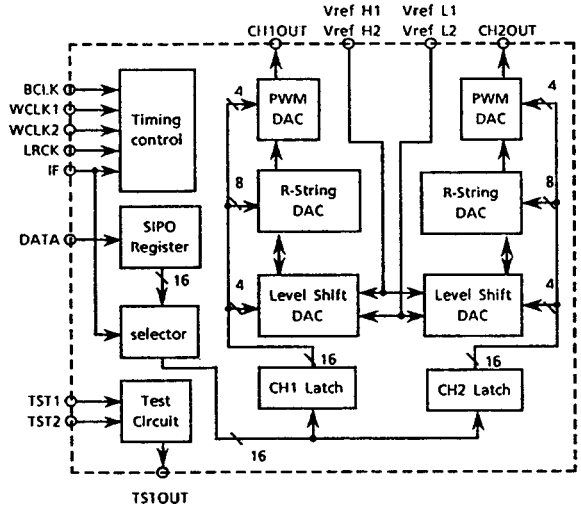
Pin No.	Symbol	I/O	Function and Operation
50	WQ	O	This terminal is connected to µCOM. It is a request signal which demands to µCOM inputting the data transfer (YM7121 to µCOM).
51	DIN	I	This is a data input terminal connected to µCOM. When R/W is high, the data is transferred from µCOM to YM7121 according to the SCK clock input.
53 54	DM+ DM−	O O	These terminals output the PWM to control the speed of spindle motor. The speed of the motor goes up when DM+ is high, and slows down when DM− is high: both terminals can not become high simultaneously.
55 56 60 61 62 63 64	HF TER TRHD TRGL TROF KP− KP+	I I O O O O O	When tracks are being crossed during serches, the amplitude variation of the generated HF signal is sampled at the zero − cross point of the tracking error signal TER and the TROF signal is output. The level variations of this signal turn the servo on and off, greatly facilitaing track acquisition. KP+ or KP− is output to conduct tracking, and TRHD is output during tracking to cause generation of the tracking error signal. The TRGL signal is for increasing the tracking gain after tracking is completed.
57 58 59	FEM+ FEM− FEOF	O O O	The FEM+ and FEM− are output as high speed feed signals, and FEOF signal is output for cutting the feed servo during high speed feed.
65	TRBK	I	TRBK is input to apply tracking brake from outside. TRGL becomes low with high input and inner control signal TBKE becomes high.
66	SVOF	I	When the signal inputs to SVOF, tracking and feed srvo set to OFF. TROF and FEOF become "H" with high input, and TRHD, KP+, KP− become low.
67 68 69	$\overline{FZC}$ FCS FRF	I O I	These terminals are used for controlling the focus servo. The FCS is for a leading signal of Focusing; the signal, generated when the focus point is achieved, terminate the focusing operation; and FCO flag is dropped internally by FRF signal generated when reflected light is detected.
71	$\overline{IC}$	I	YM7121 needs initializing when power supply turn on. IC will be low more than 400µs since XIN is input clock with VDD standard.
73 74 75	SLVL EFMX $\overline{EFMX}$	O O O	Amplitude limited, mutually anti-phased signals are output from EFMX and $\overline{EMFX}$. Slice level is controlled by these signals and external amplifier. SLVL is output amplitude alteration component of both terminals. When integral circuit is connected to external. YM7121 easily can control slice level.
76	EFMI	I	This terminal is input EFM signal. (1~2 Vpp)
78	PCO	O	This terminal outputs the phase difference when the polarity of the clock and the EFM pattern changes.
79	VPLL	I	This terminal is input D.C. voltage matched VCO free run frequency. (17.2872 MHz)
80	1/2 VPLL	O	This terminal outputs a half of VPLL input, and capacity for stabilizing is added to this terminal.

■ LC7881-C (IC873): D/A converter

1. Terminal Layout



2. Block Diagram

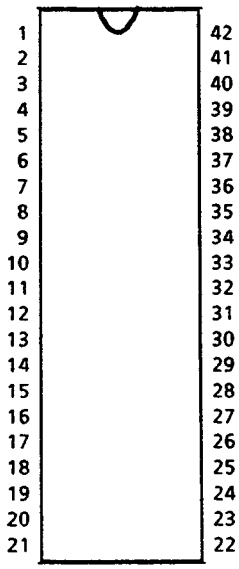


3. Pin Functions

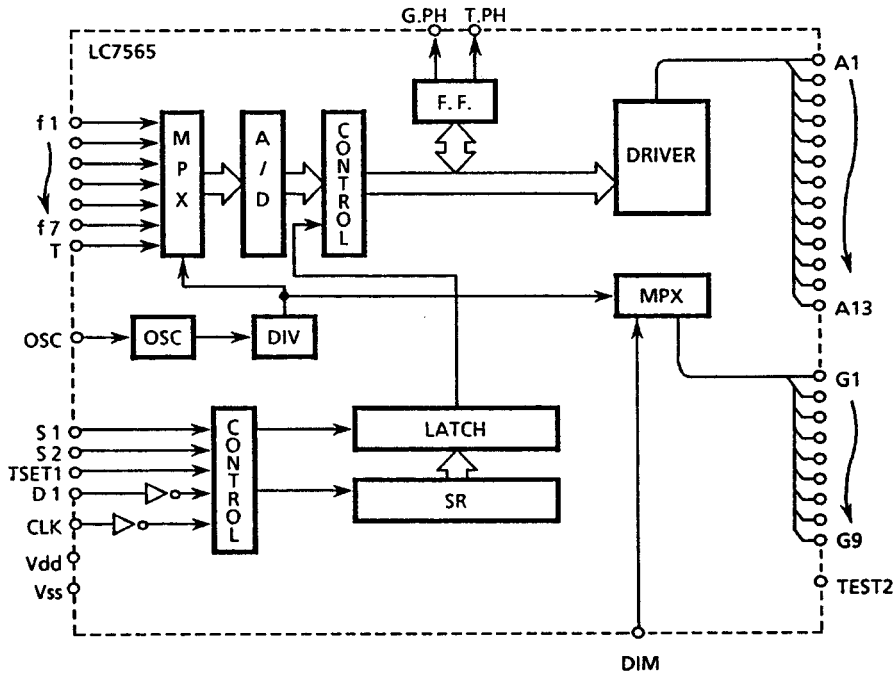
Pin No	Symbol	I/O	Functions and Operations
1	CH1 OUT	O	Channel 1 Output pin.
2	Vref H1	I	Reference voltage "H" input pin1.
3	Vref H2	I	Reference voltage "H" input pin2. (Non connect)
4	V_{DD}	—	Power supply, +5V.
5	WCLK2	I	Word clock 2 input pin. When IF pin is at high level, WCLK2 pin should be set at low level. When IF pin is at low level, this generates the internal signal used to latch the CH1 data of the digital audio signal, using the falling edge of WCLK2.
6	LRCK	I	LR clock input pin. This shows the CH1 and CH2 of the input digital audio data. When LRCK is at high level, it corresponds to CH1 data. When LRCK is at low level, it corresponds to CH2 data.
7	WCLK1	I	Word clock 1 input pin. When IF pin is at high level, this pin generates the internal signal used to latch both the CH1 and CH2 data, using the falling edge of WCLK1. When IF pin is at low level, it generates the internal signal used to latch the CH2 data.
8	DATA	I	Digital audio data input pin. When IF pin is at high level, the data signal is input by each bit serially from the MSB. When IF pin is at low level, the data signal is input by each bit serially from the LSB.
9	BCLK	I	Bit clock pin. This clock signal is used when reading the digital audio data by each bit serially, and also used for PWM D/A converter.
10	V_{DD}		Power supply, +5V.
11	TST OUT	O	Test signal output pin. Normally leave this pin open. (Non connect)
12 13	TST1 TST2	I	Test signal input pin. Normally connect to GND terminal.
14	IF	I	Interface select pin. When IF pin is at high level, the digital audio data is input from the MSB first. When IF pin is at low level, the digital audio data is input from the LSB first.
15	GND	—	Ground.
16	Vref L1	I	Reference voltage "L" input pin1.
17	GND	—	Ground.
18	Vref L2	I	Reference voltage "L" input pin2.
19	NC	—	No connection.
20	CH2 OUT	O	Channel 2 output pin.

■ LC7565 (IC901) : SEA FL Driver

1. Top view



2. Internal Block Diagram

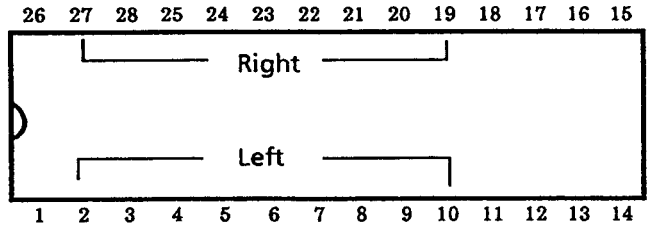


3.Function

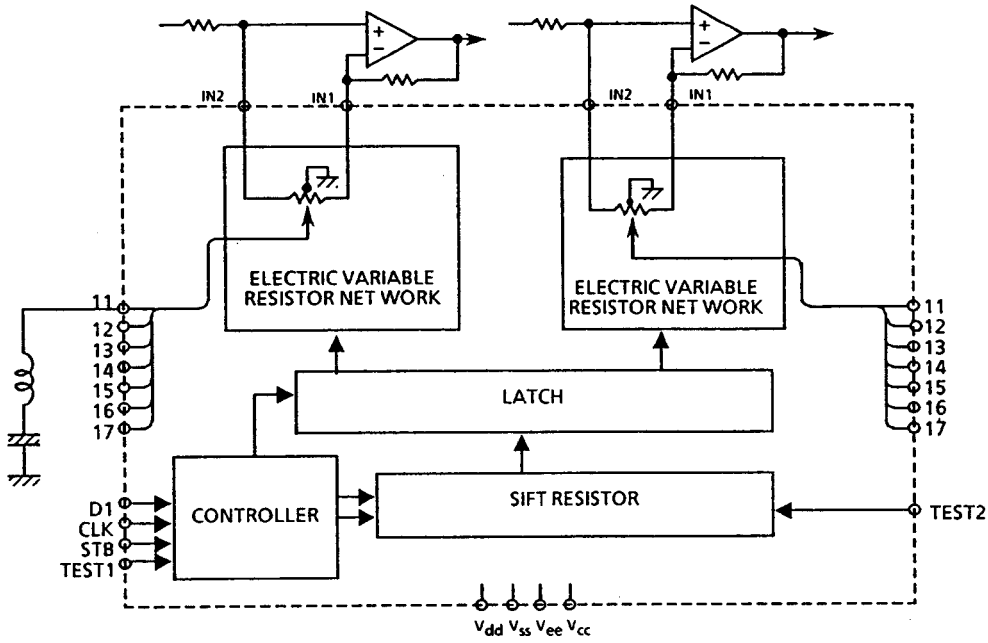
Pin No.	Symbol	Descriptions
42	VDD	Power supply (+ 5V)
19	VSS	GND
17	DI	Data input terminal f rom CPU
18	CLK	Clock input terminal from CPU
15	S1	Chip select terminal (Connected to GND)
16	S2	Chip select terminal (Connected to GND)
21	G.PH	Peak hold for graphic equalizer display ;Decision of reset time with connecting resistor and capacitor
22	T.PH	Peak hold of total display ; Decision of reset time with connecting resistor and capacitor
32	DIM	Connected to GND
24 25~31	T f1~f7	Input terminal of rectified voltage signal
20	OSC	Oscillator with connecting resistor and capacitor
2~14	A1~A13	FL anode drive output
33~41	G1~G9	FL grid drive output
23	TEST1	Connected to GND
1	TEST2	Connected to GND

■ LC7522 (IC 651) : Variable Resistor for SEA Control

(1) Top view



(2) Block Diagram



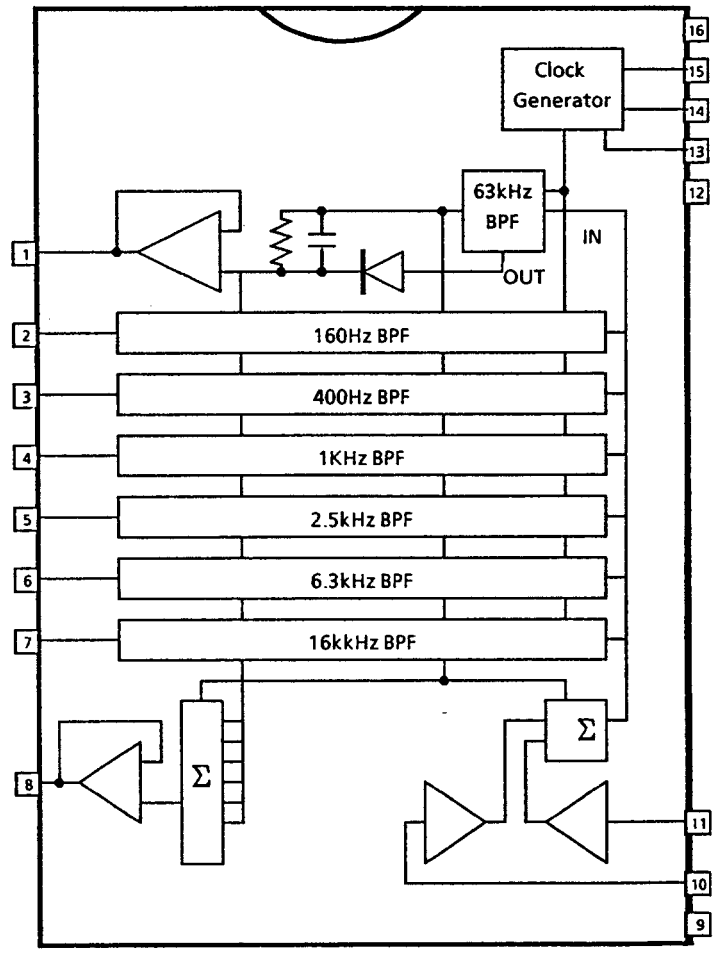
(3) Pin functions

Pin No.	Pin Name	Functions
1 18 14 15	VDD VSS VEE VCC	Power supply +7V for audio signal Connect to Ground . Power supply -7V for audio signal. Connect to VSS when using single-power. Power supply +5V
2,27 3,26	IN 1 IN 2	Audio signal input The inversion signal of the operational amplifier inputs to IN 1 normally. The non-inversion signal of the operational amplifier inputs to IN 2 normally.
16	DI	Data input from the CPU. Schmitt inverter type
17	CLK	Clock signal input from the CPU. Schmitt inverter type
4~10 19~25	f1~f7	For connect to band-pass filter. f1~f7 x 2 (Left and Right)
11 12	TEST 1 TEST 2	Not use Not use
13	S	Connect to VEE
28	NC	Not use

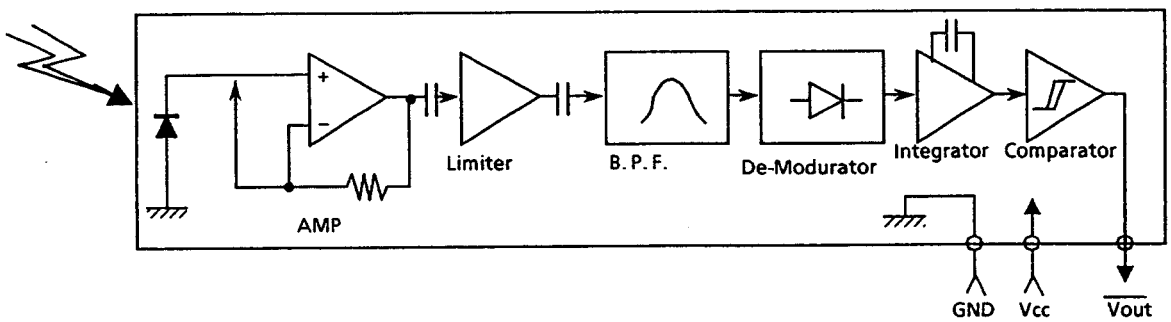
Internal Block Diagram of Other ICs

■ XR1091CCP (IC903) : Display Filter

Pin No.	Symbol	Descriptions
1	63	Peak hold output of 63Hz band-pass filter
2	160	Peak hold output of 160Hz band-pass filter
3	400	Peak hold output of 400Hz band-pass filter
4	1k	Peak hold output of 1kHz band-pass filter
5	2k	Peak hold output of 2kHz band-pass filter
6	6k	Peak hold output of 6kHz band-pass filter
7	16k	Peak hold output of 16Hz band-pass filter
8	TOTAL	Total frequency output (peak hold)
9	Vss	Power supply (- 6V)
10	R IN	Right channel input
11	L IN	Left channel input : Connecting to ground
12	GND	Ground terminal
13	CLK	Connecting capacitor for clock
14	CLK	Connecting resistor to pin 13 for clock
15	CLK / 2	1/2 clock output
16	Vdd	Power supply (+ 6V)



■ GP1U501X (IC902) : Remocon Module IC



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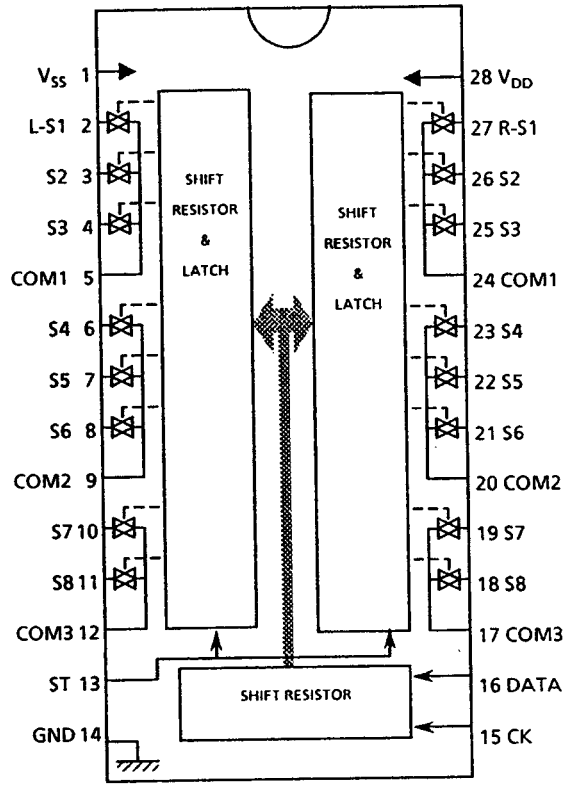
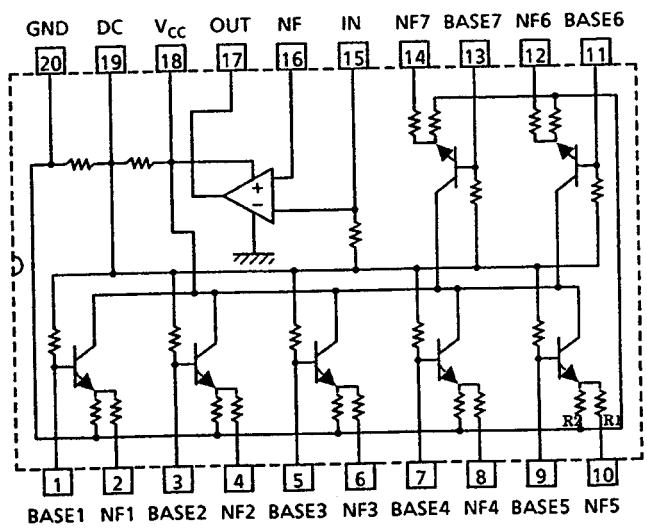
■TC9163N (IC590) : Analog switch

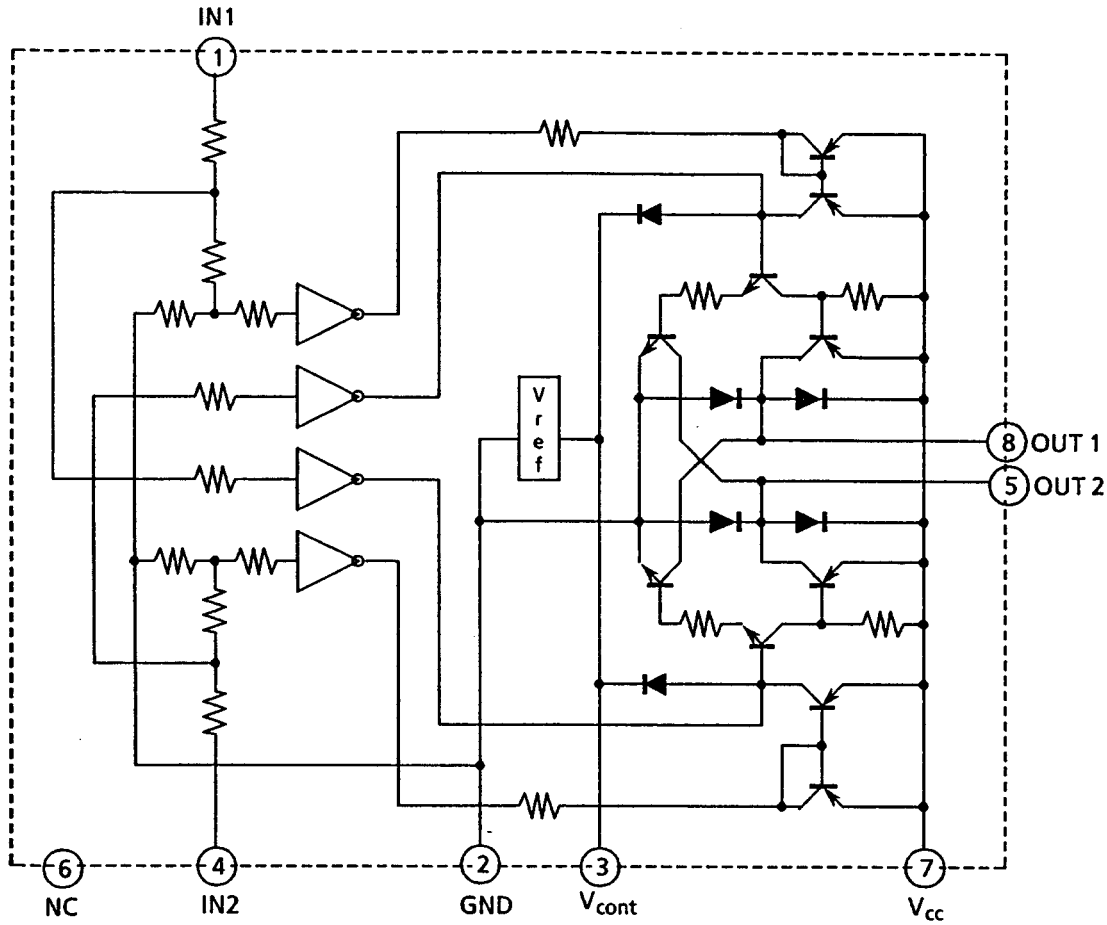


	Switch Select bit								Right	Left	Chip Select bit			
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14
TC9163N	The switch is on where the data is "1".										1	0	0	0

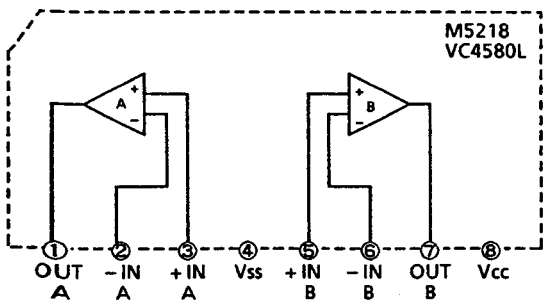
■LA3607S (IC653, IC654) : 7-element Electrical Inductor



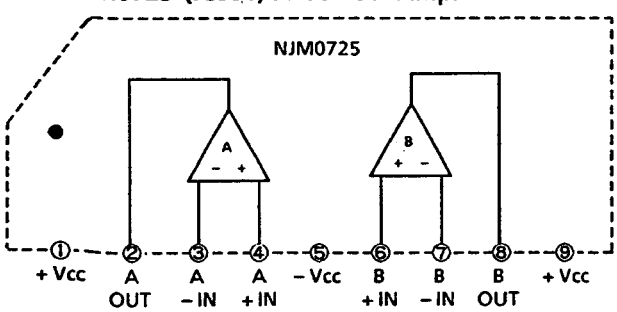
■LB1639-CV (IC633) : Motor Driver



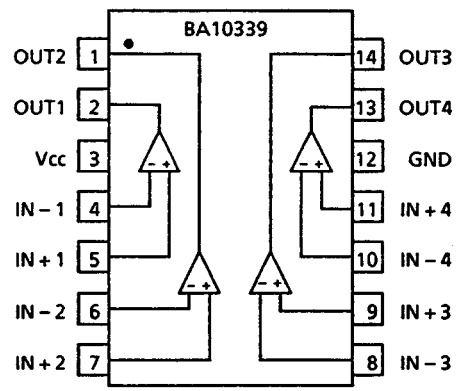
■ VC4580L (IC 762) : Dual OP Amp.
BA15218 (IC781,803,871,872) : Dual OP Amp.



■ NJM072S (IC801) : Dual OP Amp.



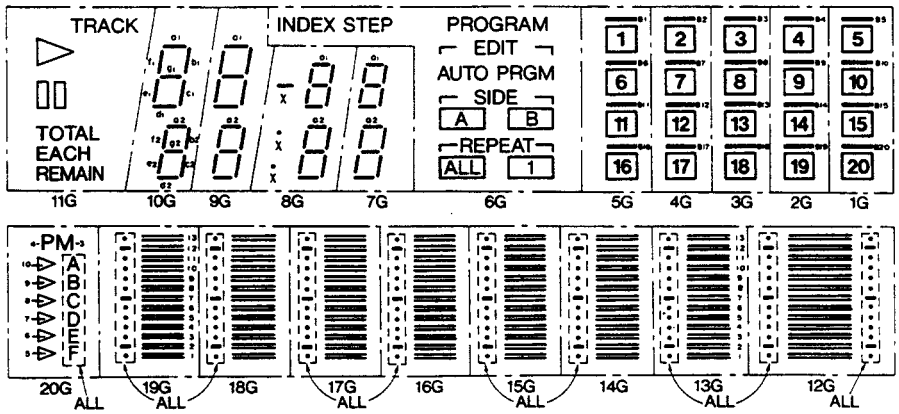
■ BA10339 (IC802) : Comparator



Internal Connections for the FL Display Tube

■ FL901 : ELU0001-093

(1) Grid Layout



(2) Pin Connections

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
CONNECTION	F1	F1	NP	19G	18G	17G	16G	15G	14G	13G	12G	20G	PALL	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	PX	11G	10G	9G

PIN NO.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
CONNECTION	8G	7G	6G	5G	4G	3G	2G	1G	Pa1	Pb1	Pf1	Pg1	Pc1	Pe1	Pd1	Pa2	Pb2	Pf2	Pg2	Pc2	Pe2	Pd2	NP	F2	F2

Note F: Filament P: Anode G: Grid NP: No Pin

(3) Anode Connection Table

	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
a1	—	a1	a1	a1	a1	—	—	—	—	—	—
b1	—	b1	b1	b1	b1	—	—	—	—	—	—
c1	▮▮	c1	c1	c1	c1	PROGRAM	1	2	3	4	5
d1	TOTAL	d1	d1	d1	d1	AUTO	(6)	(7)	(8)	(9)	(10)
e1	—	e1	e1	e1	e1	EDIT	B6	B7	B8	B9	B10
f1	TRACK	f1	f1	f1	f1	INDEX	B1	B2	B3	B4	B5
g1	▶	g1	g1	g1	g1	STEP	(1)	(2)	(3)	(4)	(5)
a2	EACH	a2	a2	a2	a2	PRGM	6	7	8	9	10
b2	REMAIN	b2	b2	b2	b2	SIDE	B11	B12	B13	B14	B15
c2	—	c2	c2	c2	c2	REPEAT	B16	B17	B18	B19	B20
d2	—	d2	d2	d2	d2	1	16	17	18	19	20
e2	—	e2	e2	e2	e2	ALL	(16)	(17)	(18)	(19)	(20)
f2	—	f2	f2	f2	f2	A	(11)	(12)	(13)	(14)	(15)
g2	—	g2	g2	g2	g2	B	11	12	13	14	15
x	—	—	—	:, ▬	—	—	—	—	—	—	—

Disassembly Procedures

Notice

When comfirm the AX-MX1BK/LBK, connect DR-MX1BK/LBK because the power can not be turned on.
If comfirm using only the AX-MX1BK/LBK, short circuit P601(ENH-151-1).

(1) Removing the top cover

1. Remove 2 screws on each side and 2 screws on the rear.
2. Pull the top cover slightly backward and lift it while spreading the backs of the left and right sides to remove it.

(2) Removing the tray Ass'y

1. Remove the top cover.
2. Turn the power on and press OPEN / CLOSE button to move the tray out.Then turn the power off.
3. While pressing the tray stopper, pull the tray toward front to move out it.
4. If the power can not be turned on due to malfunction, etc., turn the plastic screw located on the bottom plate under the front panel in the direction of the arrow (clockwise) to move the tray out , as shown in the Fig.2.

(3) Removing the CD Chassis base

1. Remove the top cover.
2. Remove the tray Ass'y.
3. Remove voltage selector A,B and the backup transformer P.C. board.
   (Handle the Backup transformer P. C. Board with care.)
4. Remove the connector J713,J711 and J701.
5. Remove 4 screws ①.(Fig.1)
6. Take the CD chassis base out with mechanism Ass'y and CD P.C. board.

(4) Confirming the System control and power amplifire P.C. board

1. Remove the CD chassis base with the mechanism Ass'y and the CD P.C. board.
2. Remove 4 screws fastening the system control and power amplifire P.C.board.
3. Remove 4 screws ② fastening the rear side.(Fig.3)
4. Confirm the CD P.C. board as shown in the Fig .4

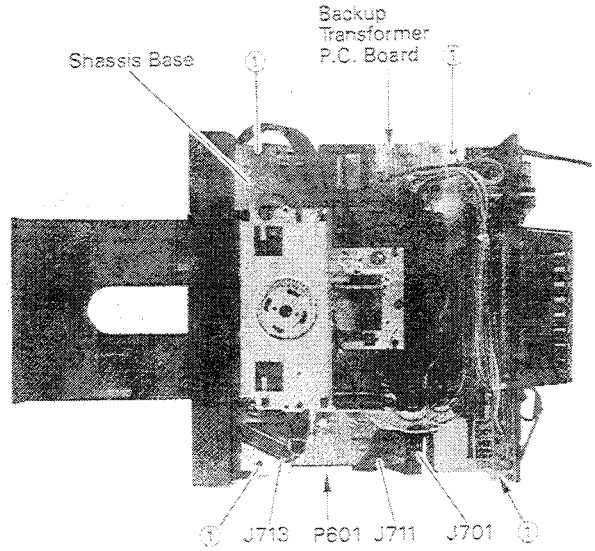


Fig. 1

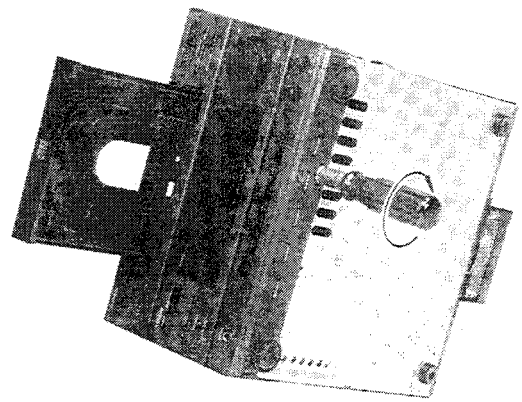


Fig. 2

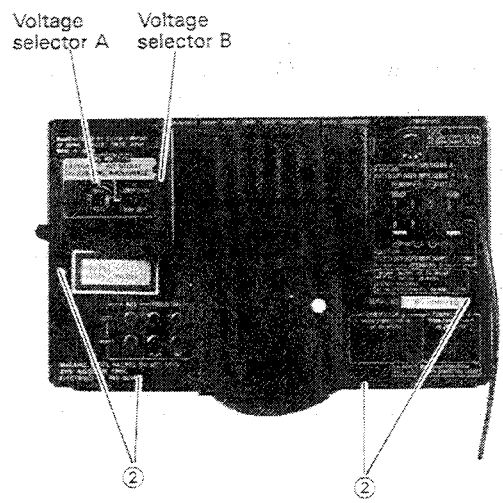


Fig. 3

(5) Confirming the CD P.C. board

1. Remove the CD chassis base with the mechanism Ass'y and the CD P.C. board.
2. Remove the CD P.C. board with the insulation sheet from CD chassis base.
3. Confirm the P.C. board as shown in the Fig.5.

(6) Removing the Front panel

1. Remove the top cover.
2. Remove the tray Ass'y.
3. Remove the CD chassis base.
4. Remove 4 screws under the front panel.
5. Remove 3 volume knobes.
6. Remove a nut fastening the main volume.
7. Cut the tie band.
8. Remove 2 screws fastening the balance / twin bass P.C. board on the front panel and take it out.
9. Take the set apart as shown in the Fig.6.

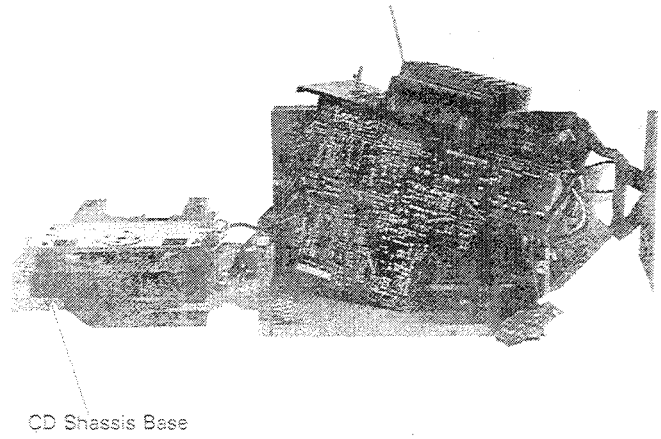


Fig. 4

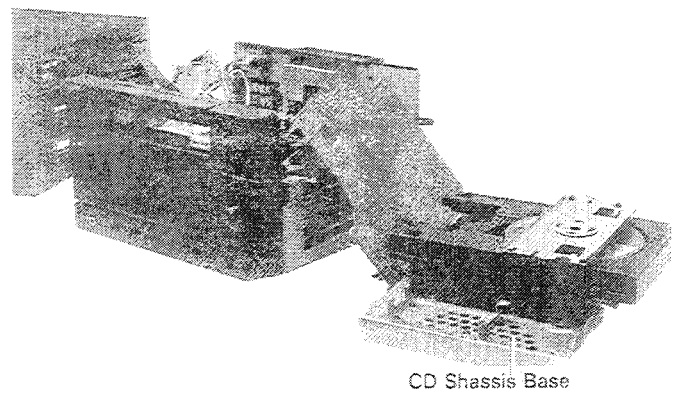


Fig. 5

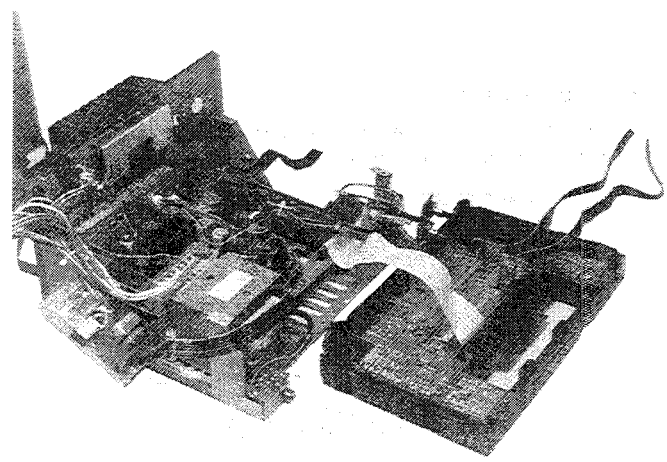
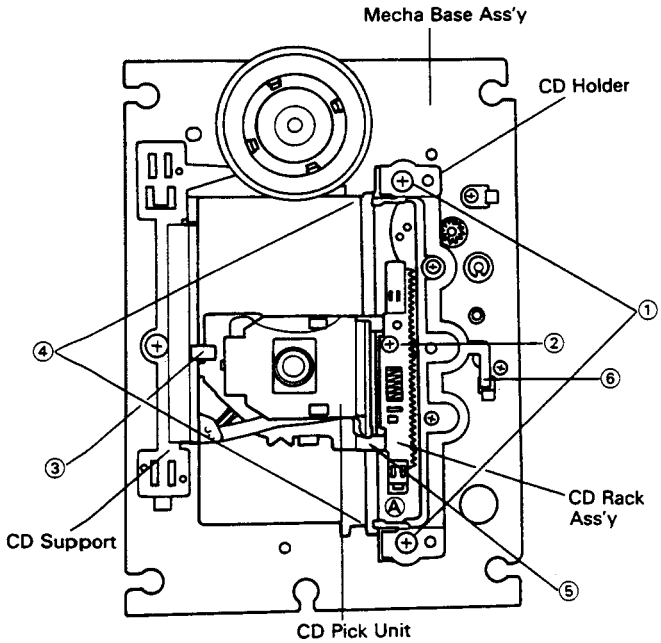


Fig. 6

(7) Laser pickup removal

1. Remove the top cover, tray assembly, cover and the clamper.
2. Move the Pickup Unit from rest position to the center pushing ⑤ point with finger.
3. Remove the screw ② from the CD RACK Ass'y.
4. Remove the CD RACK Ass'y.
5. Remove the screw ①from the mecha base Ass'y.
6. Remove the CD HOLDER fastening the shaft from the mechabase Ass'y. (Release the hook ⑥)
7. Remove the CD PICK UNIT with the shaft.

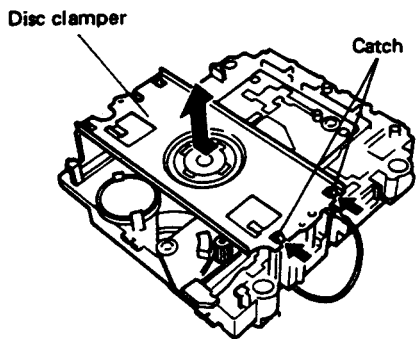


(8) Laser pickup installation

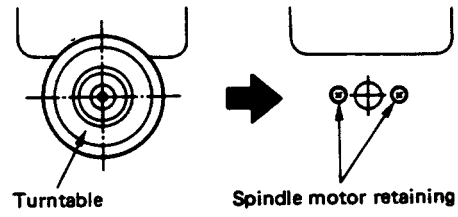
1. Connect two wires with the connectors of APC P.C. Board.
2. While installing the ③ in the CD SUPPORT, set the shaft on the base crook ④.
3. Install the CD HOLDER.
4. Install the CD RACK Ass'y in CD PICK UNIT.
   1) Install like inserting Ⓐat first.
   2) Fix screw ②.

(9) Removing the spindle motor

1. Remove a cover and release the catches holding the disc clamper to remove the disc clamper.



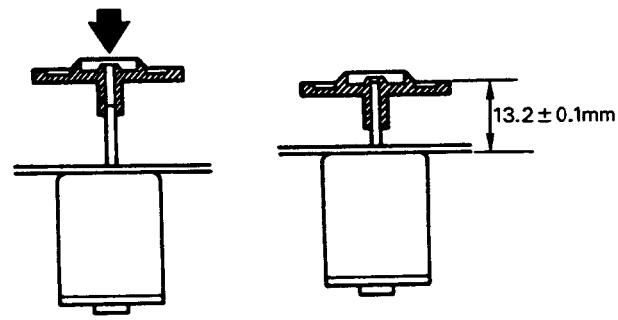
2. Remove the turntable, and remove the two screws retaining the spindle motor.



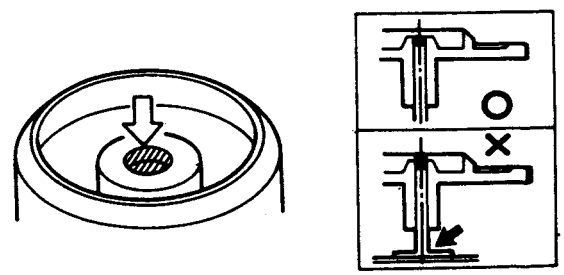
3. Remove the mechanism assembly as described above.
4. Remove the screw retaining the Spindle and Feed Motor P.C. Board and unsolder it.

(10) Spindle motor installation

1. Tighten the 2 screws to the same torque.
2. Solder the Spindle and Feed Motor P.C. Board.
3. Install the turntable. When installing, press straight down at the center of the turntable until the distance from the bottom of the mechanism base to the top of the turntable is exactly 13.2 ± 0.1mm.



3. After insertion is complete, bond the motor shaft and turntable together (at the section marked by an arrow in the figure on the left below).



Use "LOCKTITE" #460 bonding agent, and apply as little as possible. Take care not to allow any excess bonding agent to get onto the turntable. Be extremely careful not to allow bonding agent to adhere to the motor bearings (the section marked by an arrow in the figure on the right).

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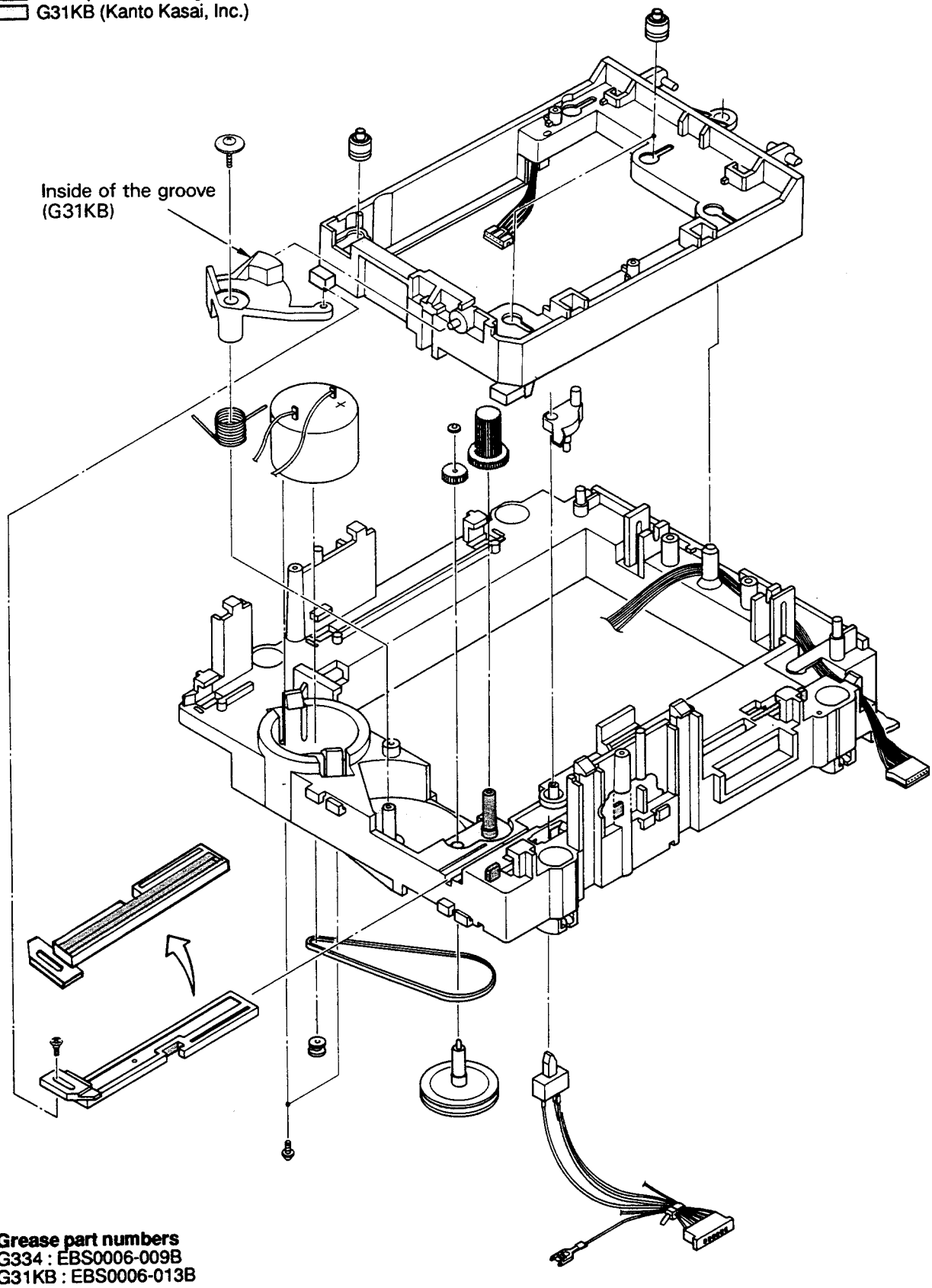
Application Points for Grease

Grease used
G334 (Shin-etsu Kagaku, Inc.)
G31KB (Kanto Kasai, Inc.)



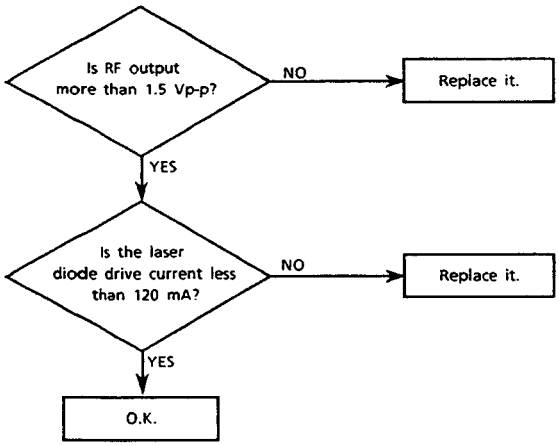
Grease part numbers
G334 : EBS0006-009B
G31KB : EBS0006-013B

Maintenance of Laser Pickup

(1) Life of the laser diode

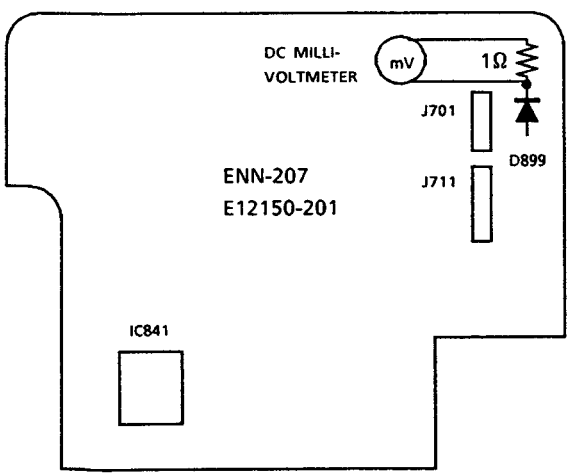
When the life of the laser diode has expired, the following symptoms will appear.

1. The level of RF output (EFM output: amplitude of eye pattern) will be low.
2. The drive current required by the laser diode will be increased.
   In such a case, check the life of the laser diode following the flowchart below



(2) Measurement of laser diode drive current

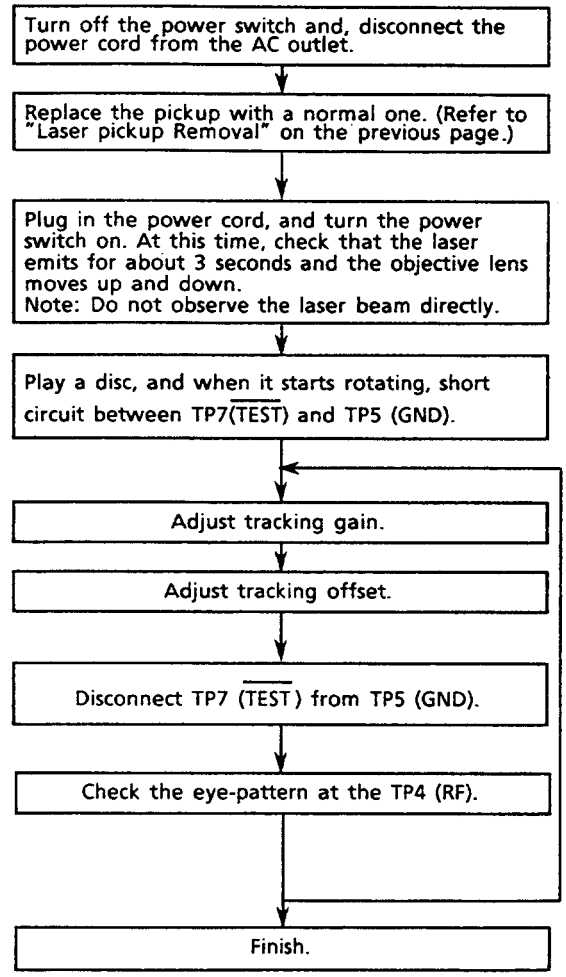
Insert a resistor (1Ω) in series to D899.
Measure the voltage across the resistor with a milli-voltmeter. When the voltage is more than 180mV, it shows that the life of the laser diode has expired



(3) Semi-fixed resistor on the APC PC board

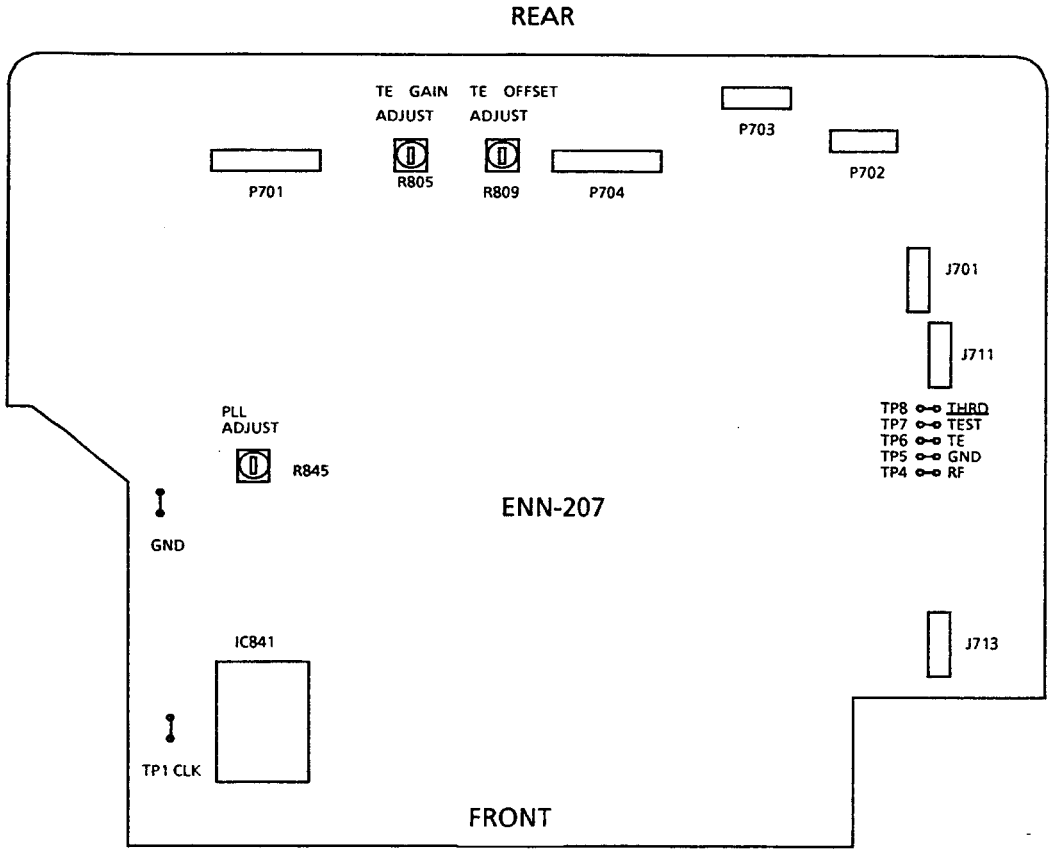
The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.
If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.
If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

Replacement of Laser Pickup



Note: Since one adjustment may affect other settings, repeat these adjustments a few times.

Adjusting Procedures



(1) PLL free-running adjustment

a. Measuring instrument
Frequency counter
b. Adjusting procedure
1. Set the player to stop mode.
2. Connect a frequency counter with TP1 (CK) and GND on the main PC board.
3. Adjust R845 for setting the counter's value
becomes 4.310 ± 0.002MHz.
4. Perform this adjustment immediately after the power is turned on.

(2) Tracking gain adjustment

a. Measuring instruments
Oscilloscope, Normal disc
b. Adjusting procedure
1. Connect an oscilloscope with TP6 (TE) and TP5 (GND) on the main PC board.
2. Play the disc.
3. Short circuit TP7 ($\overline{\text{TEST}}$) to GND.
4. Adjust R805 for setting tracking error signal becomes 2.0 $V_{P\text{-}P}$.

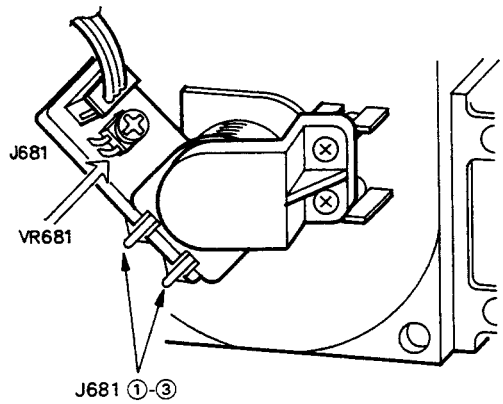
(3) Tracking offset adjustment

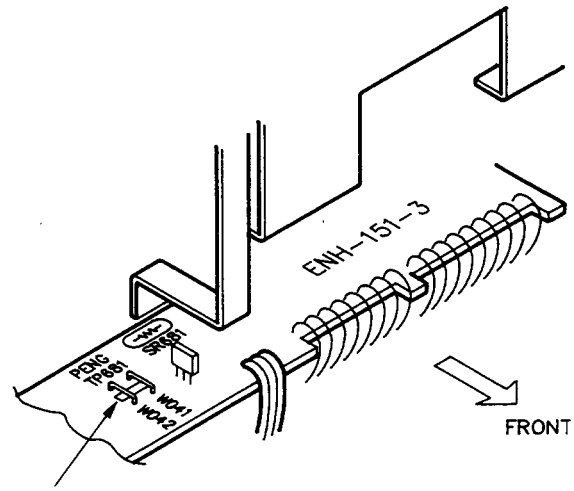
a. Measuring instruments
Oscilloscope, Normal disc
b. Adjusting procedure
1. Connect an oscilloscope with TP6 (TE) and GND on the main PC board.
2. Play the disc.
3. Short circuit TP7 ($\overline{\text{TEST}}$) to GND.
4. Adjust R809 for setting the DC level of the tracking error (off set) becomes 0.

Note: Adjust R809 for setting the waveform

Adjusting Procedures(Power Engine)

1. Short circuit W041 to W042.(The Power Engine operates with about 16Hz frequency.)
2. Connect an osciloscope with pin 1 and pin 3 of J681.
3. Adjust VR681 to obtain 7 ± 0.5V on the digital-multimeter.(19.8 ± 1.4Vp-p on the oscilloscope)





Flow of Functional Operation Until TOC is Read

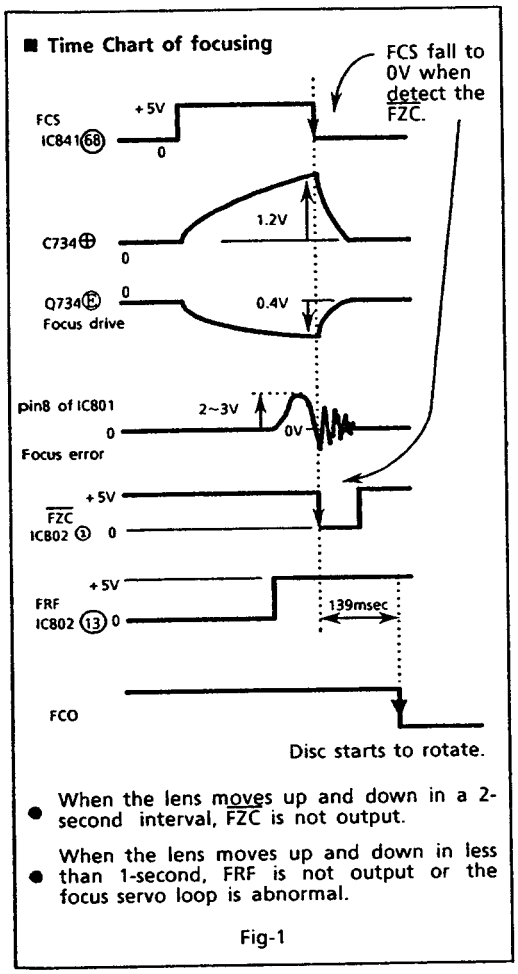


Fig-1

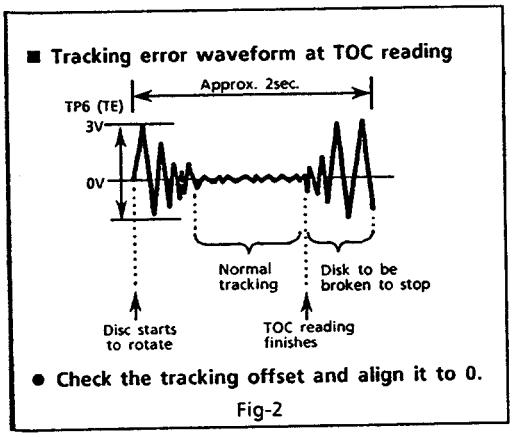
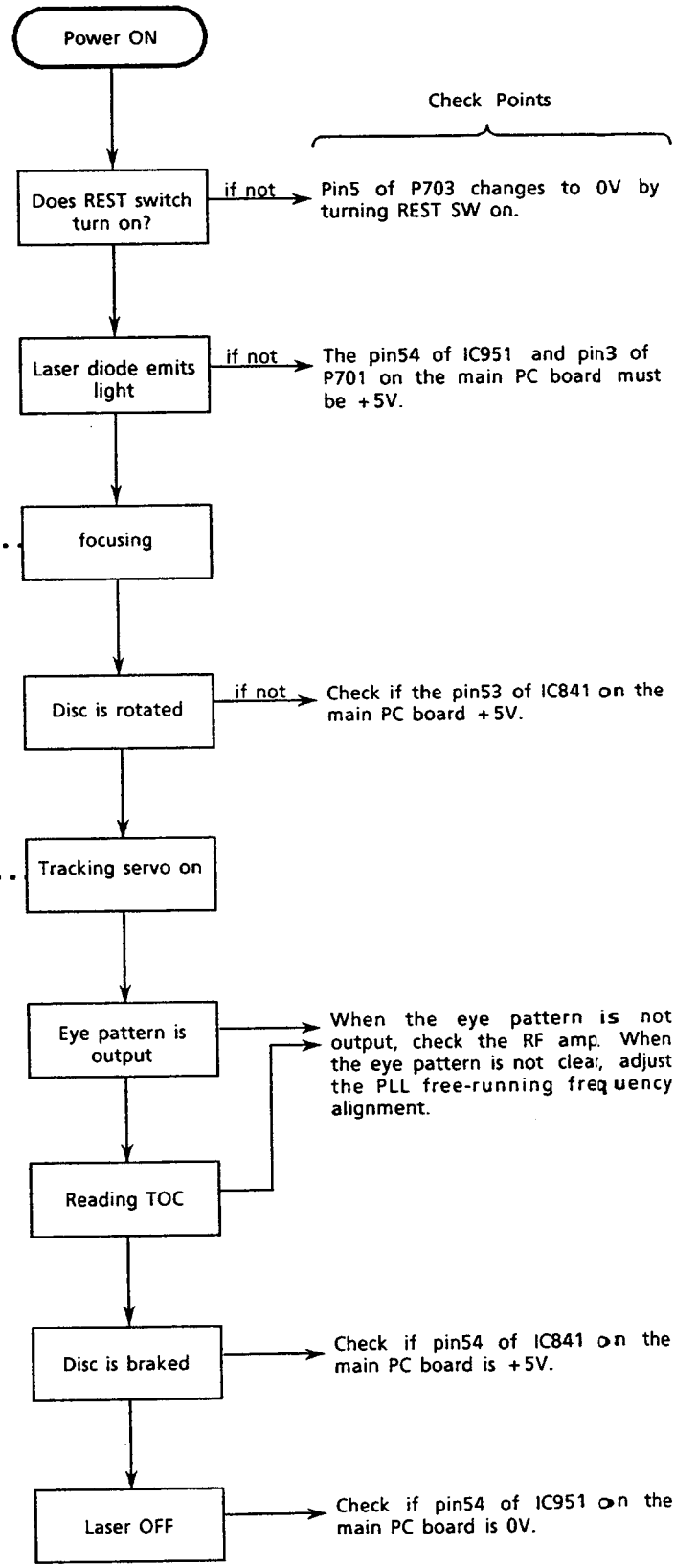
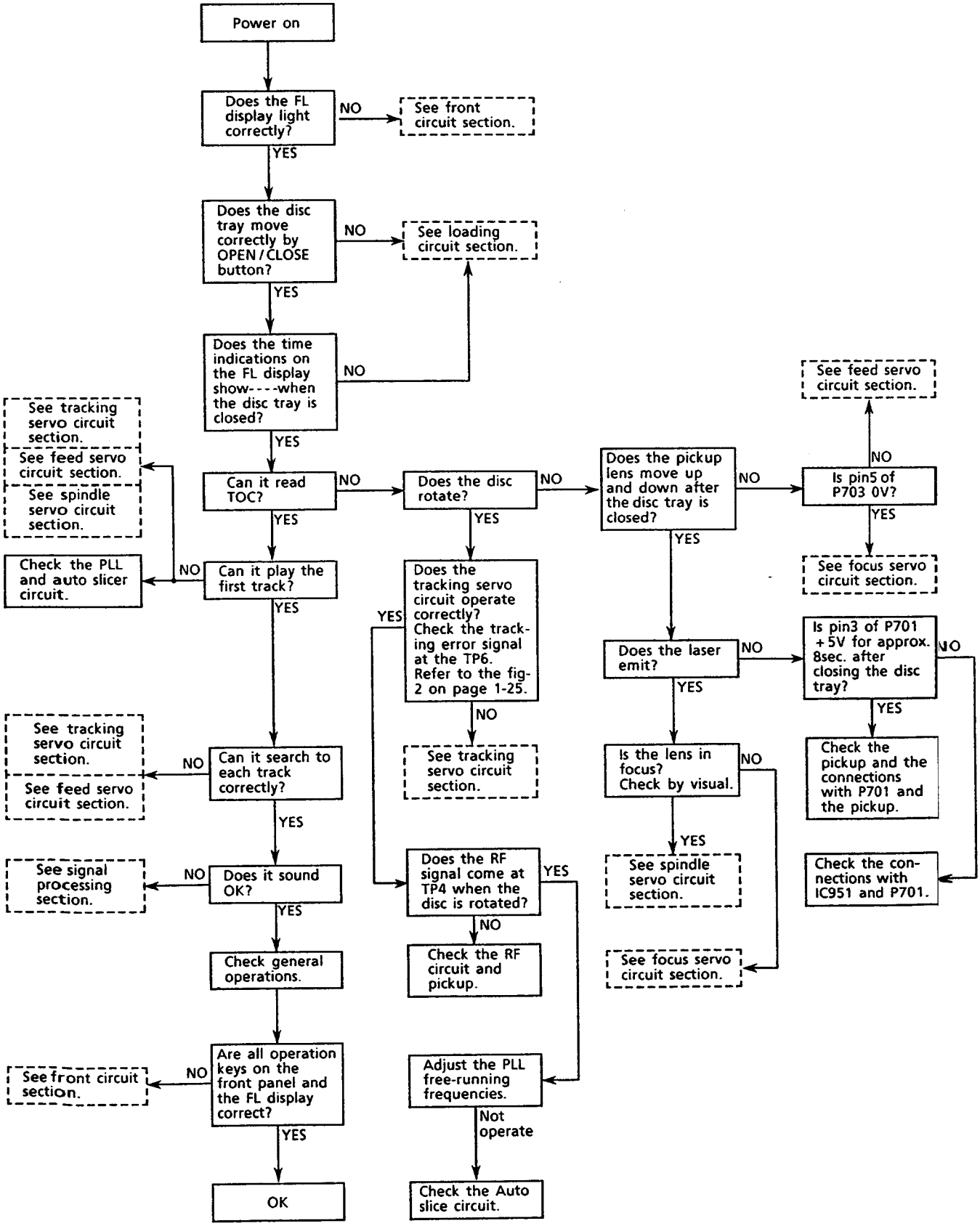


Fig-2



Troubleshooting

The following flowchart shows each circuit's condition about from "power on" until "ready to play".



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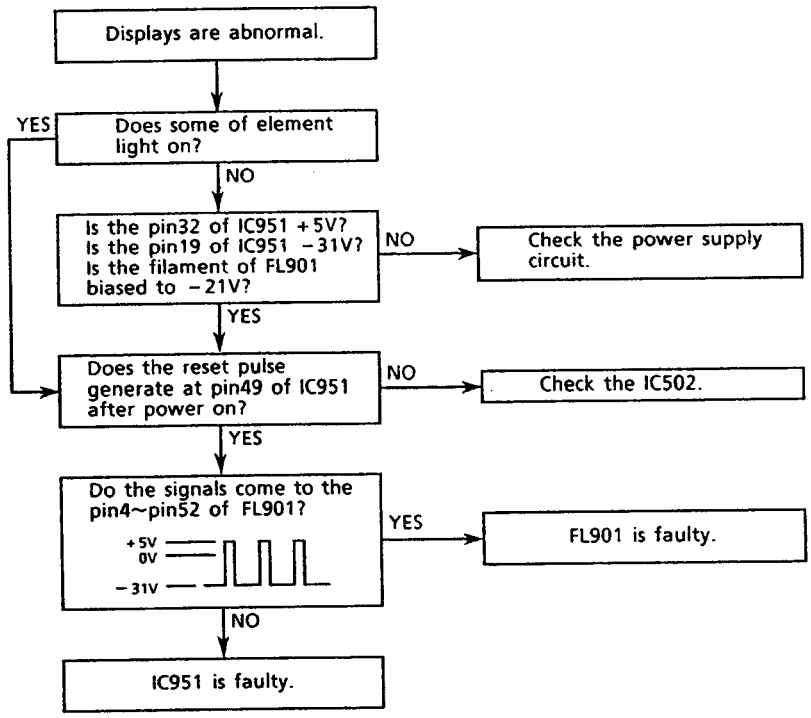
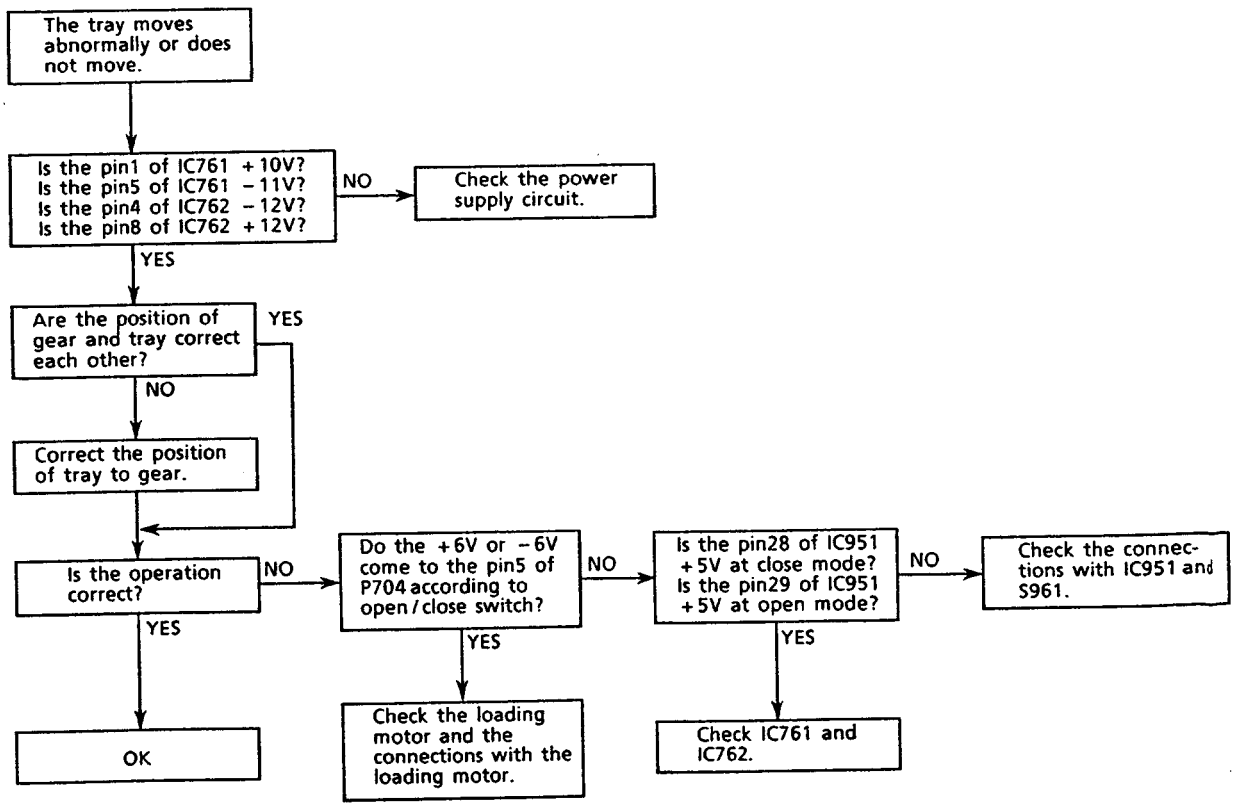
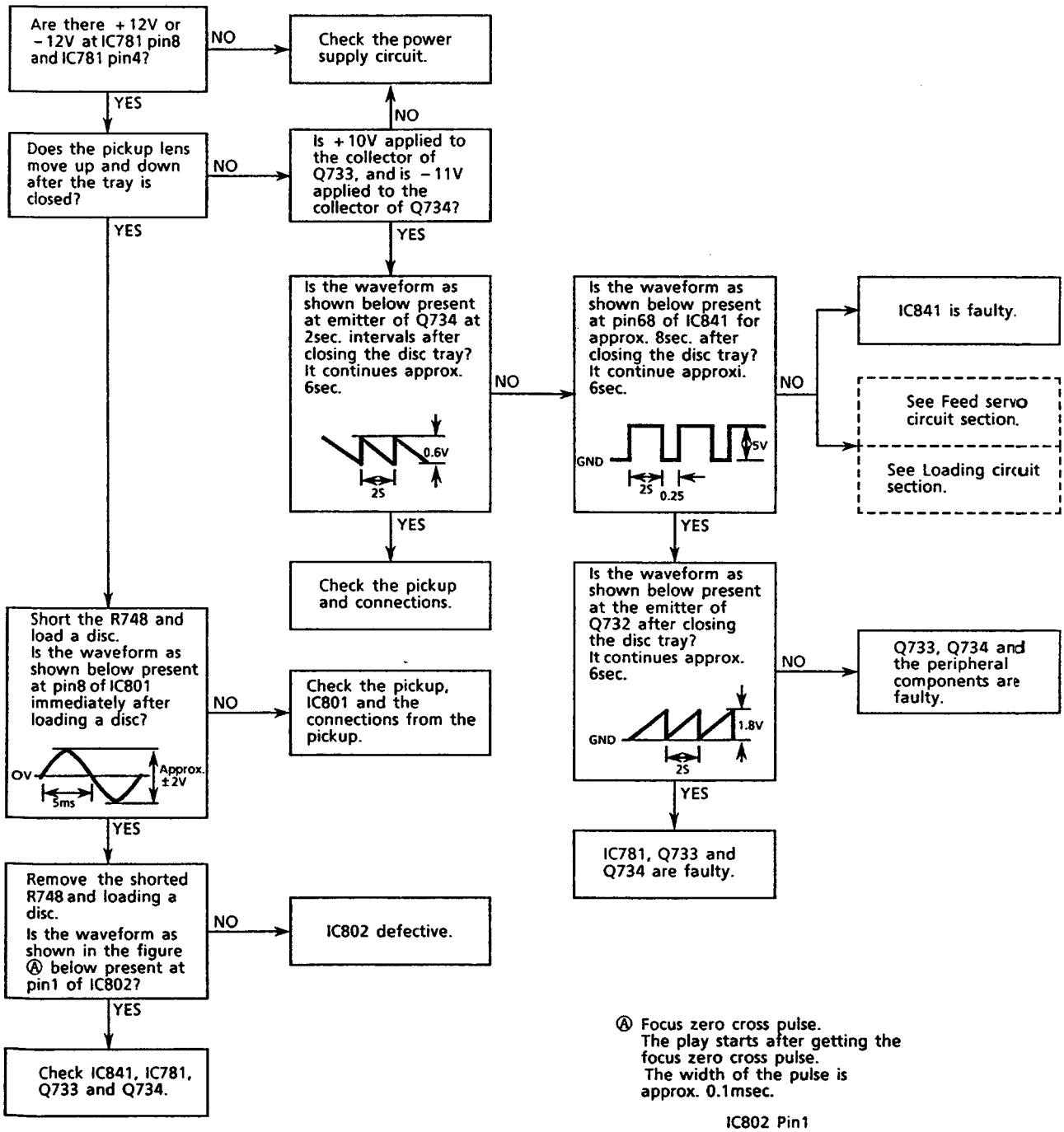
Front circuit Section



Loading circuit section

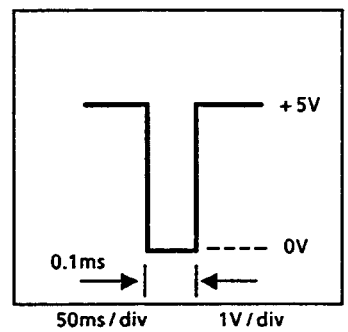


Focus servo circuit section

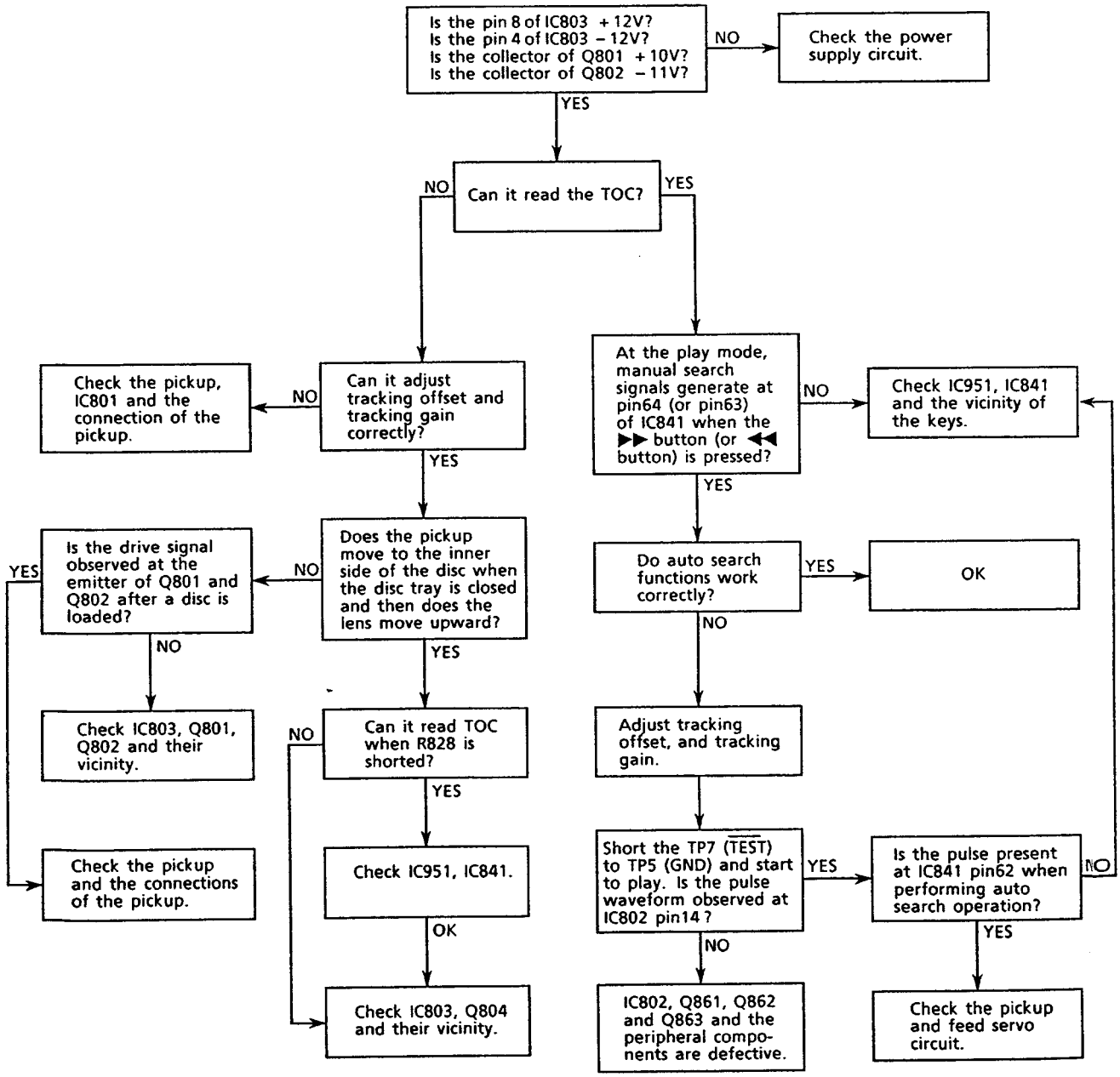


Ⓐ Focus zero cross pulse.
The play starts after getting the focus zero cross pulse.
The width of the pulse is approx. 0.1msec.

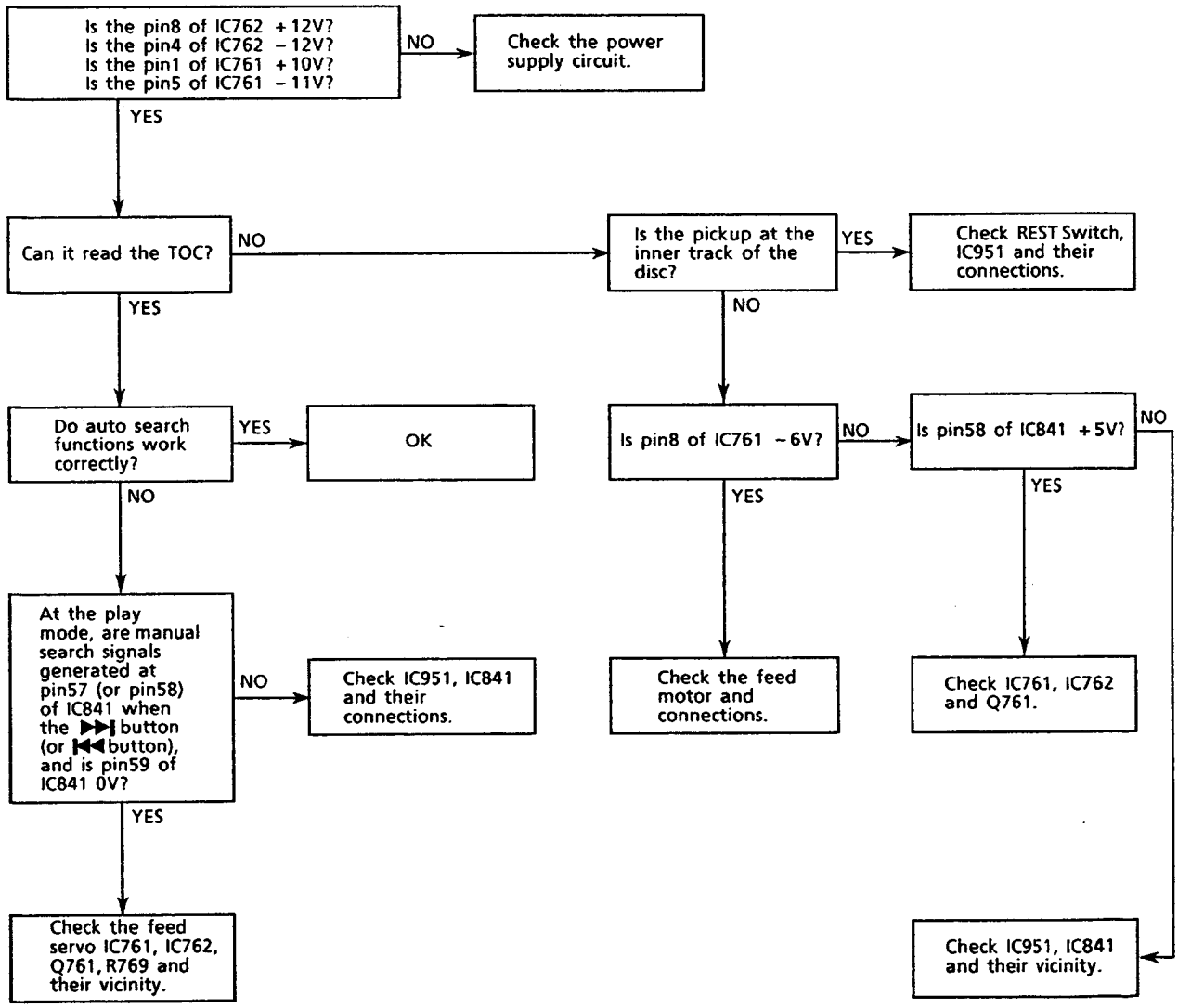
IC802 Pin1



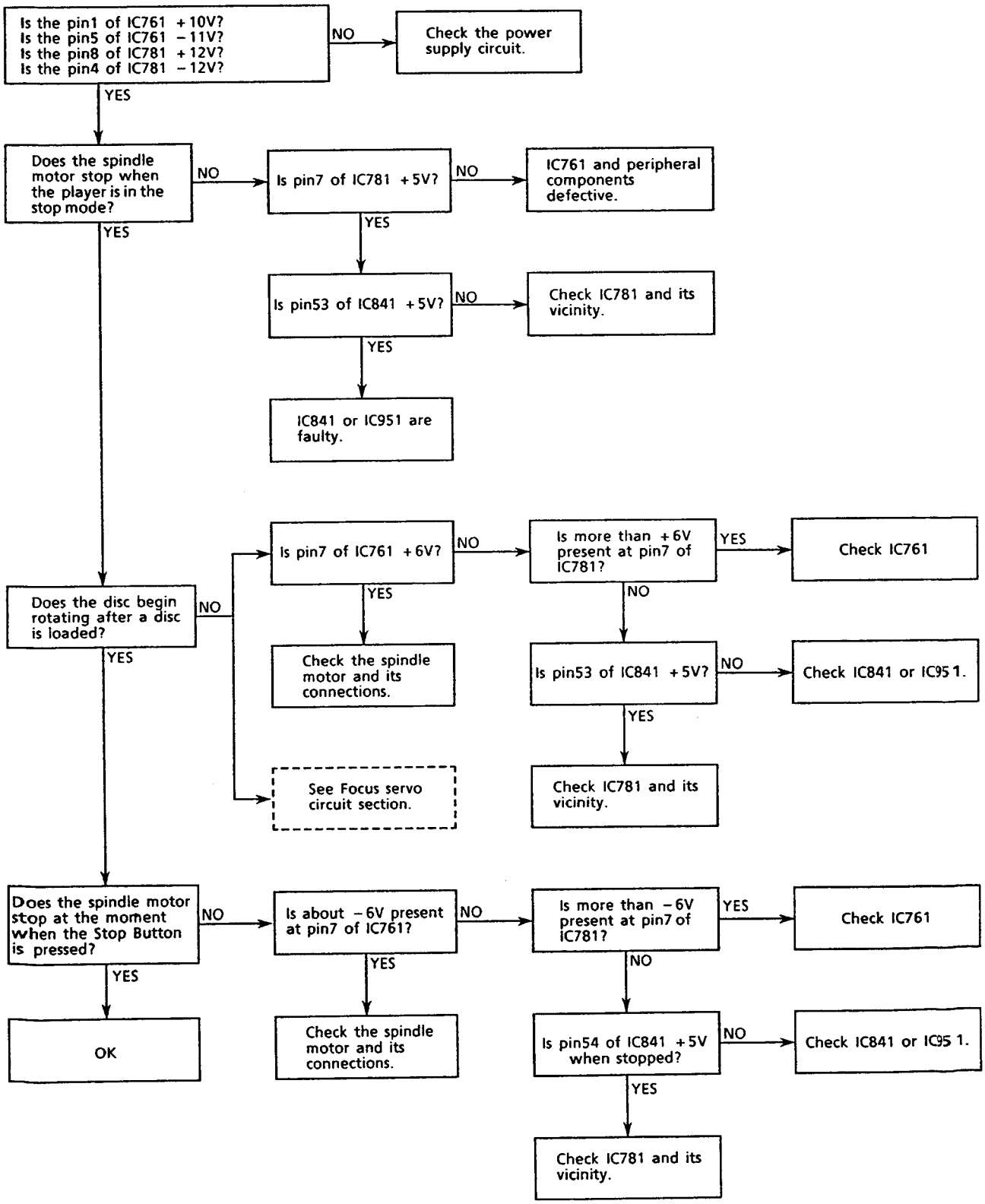
Tracking servo circuit section



Feed servo circuit section



Spindle servo circuit section



PARTS LIST

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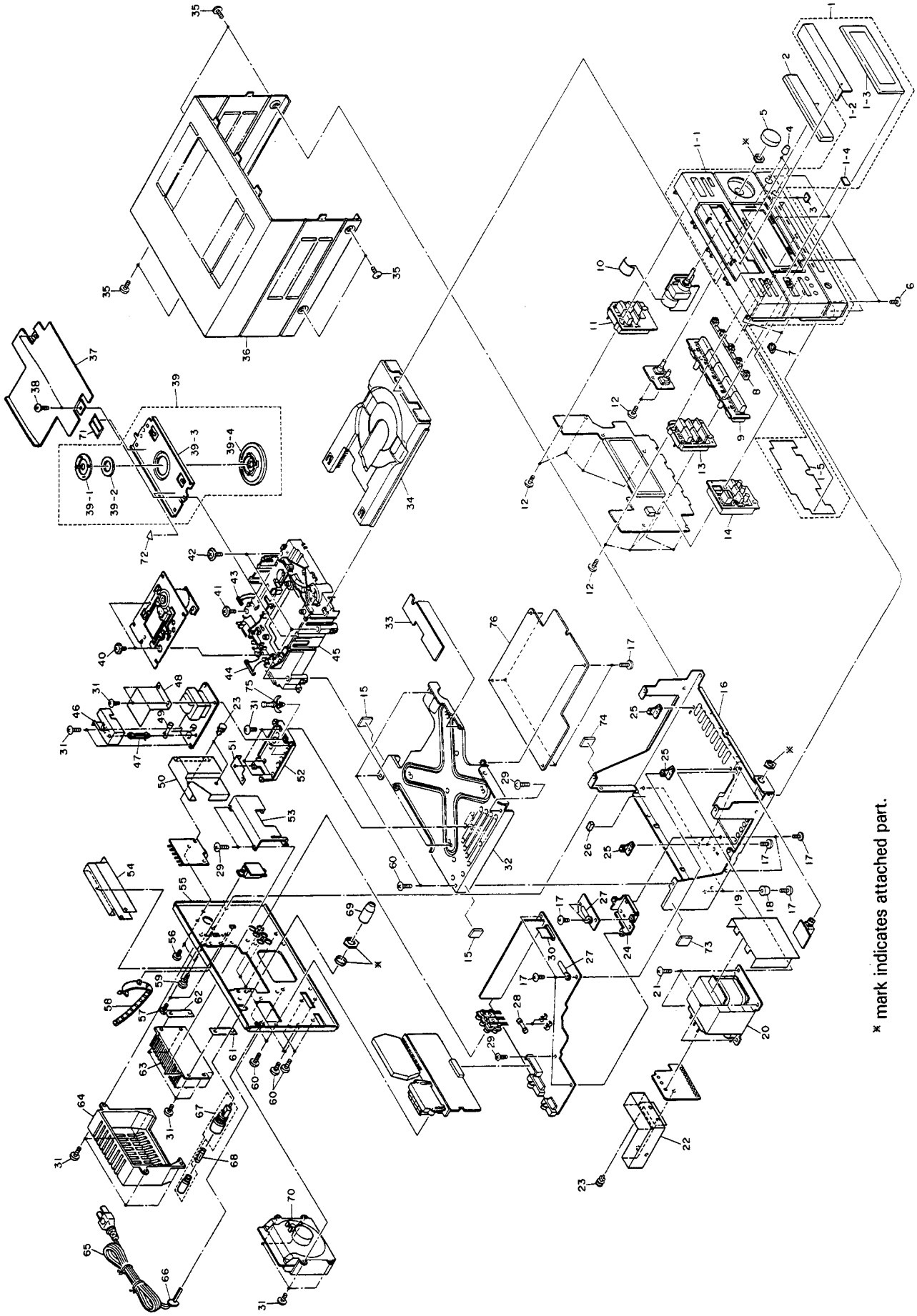
■ ENN-207 □ CD PC Board Ass'y 2-12
■ ENB-096 □ Front PC Board Ass'y 2-15

General Exploded View and Parts List



* mark indicates attached part.

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■ Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-AXMX1BKU (S)	Front Panel Ass'y	1		J, A, U
		EFP-AXMX1LBKE (S)	Front Panel Ass'y	1		Except J, A, U
	1-1	E12164-006	Front Panel	1		
	1-2	E306550-004	Ornament	1		J, A, U
		E306550-005	Ornament	1		Except J, A, U
	1-3	E306552-003	Window Screen	1		
	1-4	E75738-002	Remote Plate	1		
	1-5	E75959-001	FL Screen	1		
	2	E306560-001	Fitting	1		
	3	E75896-001	Spacer	2		
	4	E75737-001	Knob	2		
	5	E306549-001	Volume Knob	1		
	6	SDSG3008M	Screw	4		
	7	E75754-001	Indicator	2		
	8	E306580-001	Indicator	1		
	9	E306558-004	Push Button	1	FUNCTION	
	10	EXO025025R05S13	Felt Spacer	1		
	11	E306556-001	Push Button	1	CD PLAY	
	12	SDSF2608Z	Screw	11		
	13	E306554-001	Push Button	1	CD EDIT	
	14	E306562-001	Power Button	1	POWER	
	15	EXO020010R10S13	Spacer	2		
	16	E12175-002	Chassis Base	1		
	17	SBSG3008N	Screw	16		
	18	E47227-029	Foot	2		
	19	E306903-001	Protect Sheet	1		
⚠	20	ETP1050-21JA	Power Transformer	1	T002	J
⚠		ETP1050-21FA	Power Transformer	1	T002	U
⚠		ETP1050-21EA	Power Transformer	1	T002	A, LE, LEF, LEV
⚠		ETP1050-21EABS	Power Transformer	1	T002	LBS
⚠		ETP1050-21XA	Power Transformer	1	T002	LG, LGI
	21	E65389-004	Special Screw	4		
	22	E306775-001	Protect Cover	1		
	23	E48729-008	Plastic Rivet	1		Except U
		E48729-008	Plastic Rivet	3		U
	24	E306804-001	Circuit Board Bracket	1		
	25	E68587-004	Circuit Board Bracket	3		
	26	E3400-442	Felt Spacer	1		
	27	E72018-001	Wire Clamp	2		
⚠	28	QMF51U1-1R6S	Fuse	2	F501, F502	J
⚠		QMF51A2-1R25S	Fuse	2	F501, F502	Except J, LBS
⚠		QMF51E2-1R25SBS	Fuse	2	F501, F502	LBS
	29	GBSG3008CC	Screw	4		
	30	EWR1UE-25PP	Flat Wire	1		
	31	SBSG3008M	Screw	20		
	32	E12176-004	Chassis Base	1		
	33	E75900-001	Spacer	1		
	34	E12048-005	Tray	1		
	35	E75440-001	Special Screw	6		
	36	E26586-007	Metal Cover	1		
	37	E306722-002	Cover	1		
	38	SBSF3008M	Screw	2		
	39	E305598-009	Clamper Base Ass'y	1		
	39-1	E74898-003	Yoke	1		
	39-2	E74897-002	Magnet	1		
	39-3	E305594-002	Clamper Base	1		
	39-4	E305595-004	Clamper	1		
	40	E74948-001	Special Screw	2		
	41	E74727-006	Special Screw	1		
	42	E73265-003	Special Screw	3		
	43	EWS254-B218	Socket Wire Ass'y	1	4P	
	44	EWS25A-B104	Socket Wire Ass'y	1	10P	
	45	———	CD Mechanism Unit Ass'y	1	See page 2-5	
	46	E306774-002	Protect Cover	1		Except J
	47	E302321-001	Fastener	1		Except J

⚠ Safety Parts

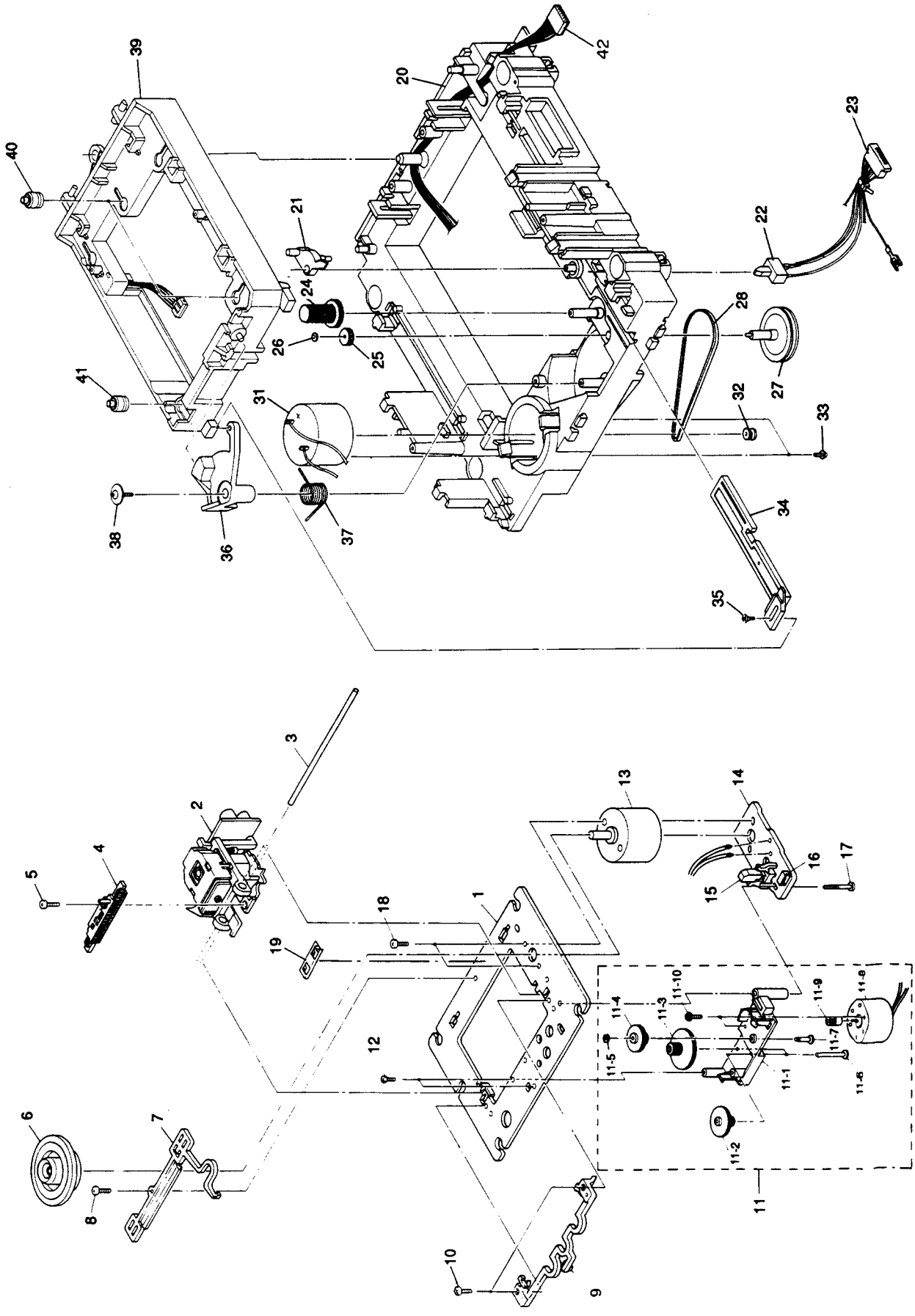
⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	48	E75983-001	Protect Cover	1		J
⚠	49	QMF51U1-4R0S	Fuse	1	F001	J
⚠		QMF51A2-1R6S	Fuse	1	F001	Except J, LBS
⚠		QMF51E2-1R6SBS	Fuse	1	F001	LBS
	50	E306776-001	Protect Cover	1		U
	51	E406066-001	Protect Sheet	1		Except J
	52	E306772-001	Circuit Board Bracket	1		
	53	E306721-001	Leaf Spring	1		
	54	E75994-002	Protect Cover	1		U
	55	E26590-004	Rear Panel	1		J
		E26590-005	Rear Panel	1		U
		E26590-006	Rear Panel	1		A
		E26590-007	Rear Panel	1		LE, LEF
		E26590-008	Rear Panel	1		LG, LGI, LEV
		E26590-009	Rear Panel	1		LBS
	—	E306818-001	Rating Label	1		J
	—	E67199-001	Caution Label	1		J
	56	SBST3006M	Screw	2		U
	57	SBSF2608M	Screw	2		U
	58	E304880-001	Cord Holder	1		
	59	E73562-003	Special Screw	1		
	60	E73273-006	Special Screw	11		U
		E73273-006	Special Screw	12		Except U
	61	E406067-001	Spacer	1		Except J
	62	E406067-002	Spacer	1		Except J
	63	E306563-002	Heat Sink	1		
	64	E26595-003	Rear Cover	1		
⚠	65	QMP1D00-200H	Power Cord	1		J
⚠		QMP2560-244	Power Cord	1		A
⚠		QMP3900-200	Power Cord	1		Except J, A, U, LBS
⚠		QMP7520-200	Power Cord	1		U
⚠		QMP9017-008BS	Power Cord	1		LBS
⚠	66	QHS3876-162	Cord Stopper	1		Except LBS
⚠		QHS3876-162BS	Cord Stopper	1		LBS
	67	QMG0301-003	Fuse Holder	1		U
⚠	68	QMF51A2-1R6S	Fuse	1	F001	U
	69	E69291-001	Fuse Cover	1		U
	70	E26596-005	Ventilator	1		
	71	E303875-004	Caution Label	1		
	72	E71541-001	Eilaser Mark	1		LE, LEF
	73	EXO030020R35S13	Spacer	1		
	74	EXO020010R35S13	Spacer	1		
	75	E406084-001	Fastener	1		
	76	E306855-001	Shield Cover	1		
	—	E61029-005	Number Label	1		Except J
	—	E70891-001	Class 1 Label	1		Except J
	—	E76016-001	Caution Label	1		J
	—	QZL1001-001	UL Lable	1		J
	—	E70028-001	Approval Label	1		LE
	—	QZL1031-101	SEV Label	1		LEV
	—	E60965-001BS	Warning Label	1		LBS
	—	E74792-065	F. Mark Label	1		LG

⚠ Safety Parts

The Marks for Designated Areas

J·····the U.S.A.
A·····Australia
LE,LEF·····Continental Europe (with LW)
LBS·····the U.K. (with LW)
LG·····West Germany (with LW)
LGI·····Italy (with LW)
LEV·····Switzer Land (with LW)
U·····Other Countries
No mark indicates all areas.

CD Mechanism Ass'y and Parts List



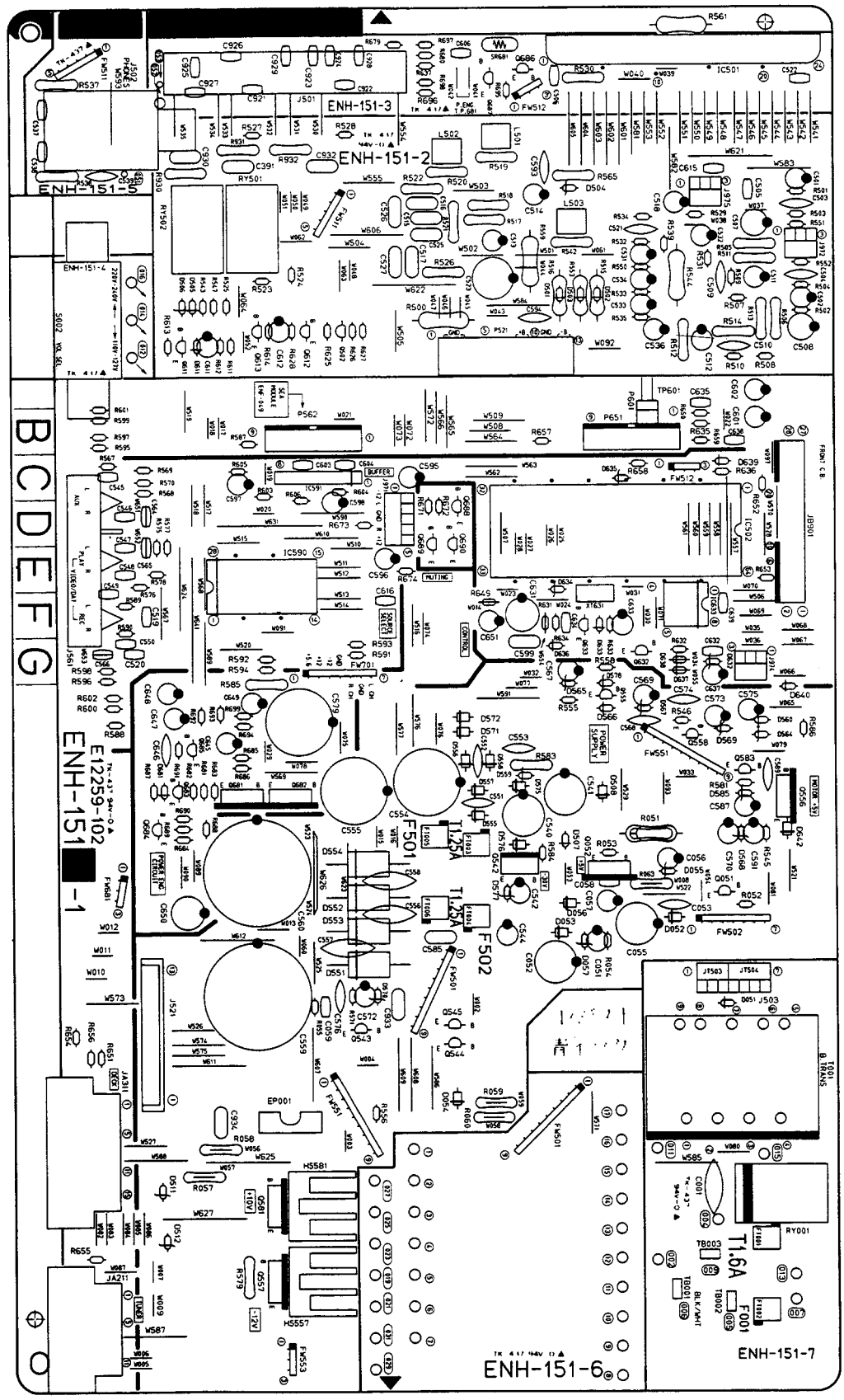
■ Parts List

Item	Part Number	Part Name	Q'ty	Description	Areas
1	E26487-002	Mechanism Base	1		
2	OPTIMA-5S	Pick up Ass'y	1		
3	E74930-002	Shaft	1		
4	E306282-001	Rack Ass'y	1		
5	SPSH2050M	Screw	1		
6	E75807-101	Turn Table Ass'y	1		
7	E306275-002	Support	1		
8	SDST2005Z	Screw	1		
9	E306277-001	Holder	1		
10	SDST2004Z	Screw	2		
11	SE10351-11	Gear Ass'y	1		
11-1	E306276-001	Gear Base	1		
11-2	E75444-001	Gear	1		
11-3	E75443-001	Gear	1		
11-4	E75445-001	Gear	1		
11-5	WDM163550	Slit Washer	1		
11-6	E75494-002	Shaft	1		
11-7	E75494-003	Shaft	2		
11-8	HKN-3A6RDNV	Feed Motor	1		
11-9	E75493-001	Pinion Gear	1		
11-10	NPSH1735Z	Screw	2		
12	E72713-001	Special Screw	2		
13	E74539-001B	Spindle Motor	1		
14	E12114-005	Circuit Board	1	ENN-187A	
15	MSW1731CVCA	Leaf Switch	1	S001	
16	EMV5109-006B	6P Plug Ass'y	1	P011	
17	E75832-001	Special Screw	1		
18	SDSP2003N	Screw	2		
19	E75827-001	Spring	1		
20	E12049-002	Loading Base	1		
21	E74888-003	Lock Lever	1		
22	ESS2100-003	Slide Switch	1		
23	EWS246-007	Socket Wire Ass'y	1		
24	E74887-002	Loading Gear	1		
25	E74886-003	Gear	1		
26	E72024-001	Speed Nut	1		
27	E74885-004	Pulley	1		
28	E74347-004	Belt	1		
31	RF-500TB-12560	Loading Motor	1		
32	E75054-001	Motor Pulley	1		
33	SPSK2640Z	Screw	2		
34	E305596-003	Rack	1		
35	E73035-003	Special Screw	1		
36	E305597-005	Elevator	1		
37	E74889-002	Spring	1		
38	E65923-003	Screw	1		
39	E26521-002	Elevator Base Ass'y	1		
40	E75609-001	Insulator	2		
41	E75609-002	Insulator	1		
42	EWS256-B236	Socket Wire Ass'y	1		

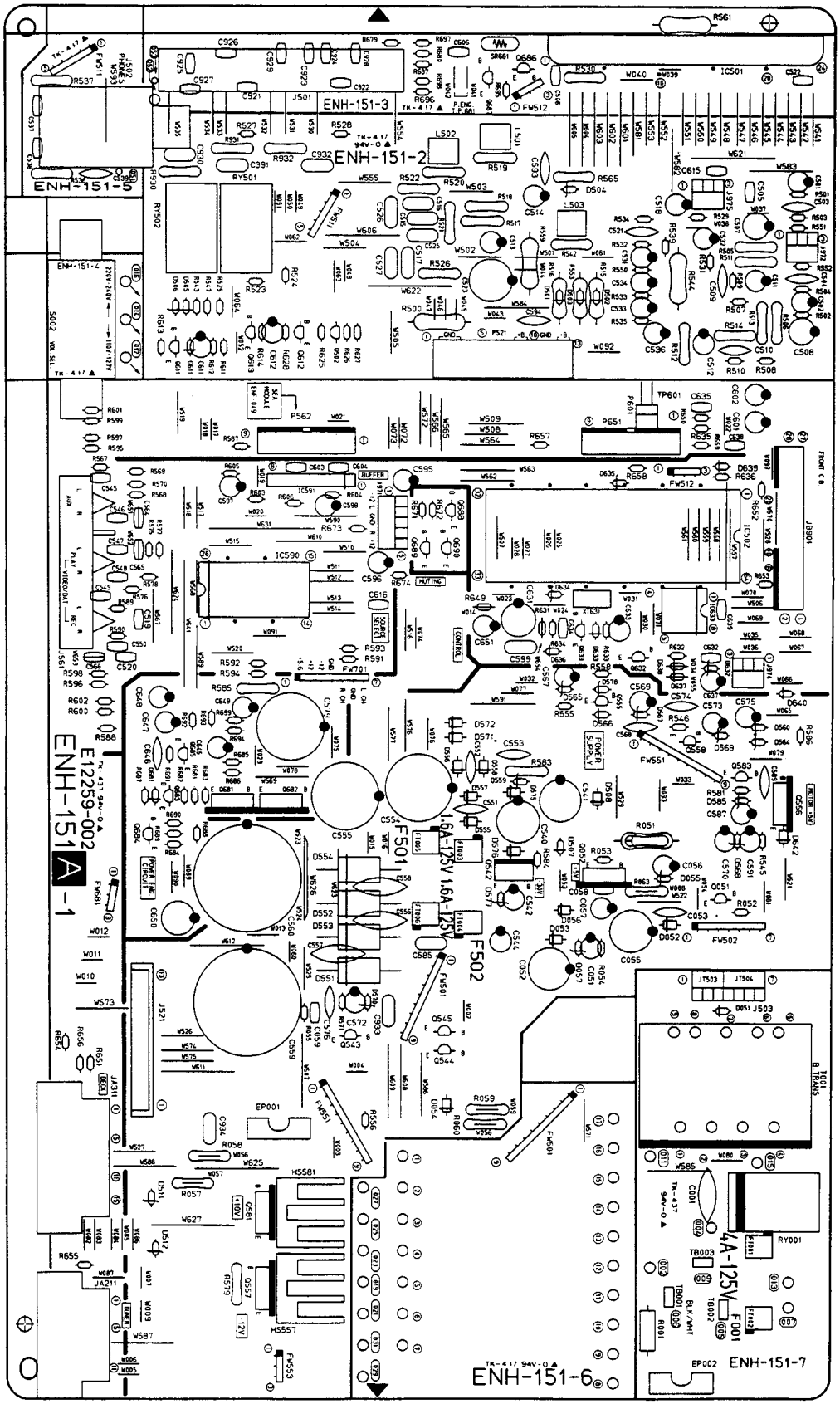
Printed Circuit Board Ass'y and Parts List

■ENH-151 □ Main Amplifier PC Board Ass'y (Except J)

Note : ENH-151 □ varies according to the areas employed. See note (1) when placing an order.



■ENH-151 Ⓐ Main Amplifier PC Board Ass'y (J Only)



Note (1)

PC Board Ass'y	Designated Areas
ENH-151 [A]	the U.S.A.
ENH-151 [B]	Other Countries
ENH-151 [C]	Continental Europe (with LW) Switzerland (with LW)
ENH-151 [D] BS	the U.K. (with LW)
ENH-151 [E]	West Germany (with LW) Italy (with LW)
ENH-151 [F]	Australia

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q051	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q052	2SD2061(E,F)	SILICON	ROHM	
	Q502	2SC2240(GR,BL)	SILICON	TOSHIBA	
	Q542	2SB1357(E,F)	SILICON	ROHM	
	Q543	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q544	DTC114YS	SILICON	ROHM	
	Q545	DTA114WS	SILICON	ROHM	
	Q555	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q556	2SD2061(E,F)	SILICON	ROHM	
	Q557	2SB1187(E,F)	SILICON	ROHM	
	Q558	2SA564A(Q,R)	SILICON	MATSUSHITA	
	Q581	2SD1266(P,Q)	SILICON	MATSUSHITA	
	Q583	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q585	2SK105(E,F)	F.E.T	NEC	
	Q611	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q612	2SA733A(P,Q)	SILICON	NEC	
	Q613	2SC1740S(R,S)	SILICON	ROHM	
	Q632	DTA114YS	SILICON	ROHM	
	Q633	DTC144ES	SILICON	ROHM	
	Q681	2SB1287	SILICON	ROHM	
	Q682	2SD1765	SILICON	ROHM	
	Q683	2SC1740S(R,S)	SILICON	ROHM	
	Q684	2SA933S(R,S)	SILICON	ROHM	
	Q685	2SC1740S(R,S)	SILICON	ROHM	
	Q686	2SC1740S(R,S)	SILICON	ROHM	
	Q687	2SC1740S(R,S)	SILICON	ROHM	
	Q688	DTA144ES	SILICON	ROHM	
	Q689	2SD2144S(VW)	SILICON	ROHM	
	Q690	2SD2144S(VW)	SILICON	ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	IC501	STK4197MK2	I.C.	SANYO	
	IC502	UPD75106CW-168	I.C.	NEC	
	IC590	TC9163N	I.C.	TOSHIBA	
	IC591	XRA15218N	I.C.		
	IC633	LB1639-CV	I.C.	SANYO	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D051	1SS133	SILICON	ROHM	
	D052	1SR139-200	SILICON	ROHM	
	D053	1SR139-200	SILICON	ROHM	
	D054	1SR139-200	SILICON	ROHM	
	D055	MTZ6.8JC	ZENER	ROHM	
	D056	1SR139-200	SILICON	ROHM	
	D057	MTZ8.2JC	ZENER	ROHM	
	D501	1SS133	SILICON	ROHM	
	D502	1SS133	SILICON	ROHM	
	D503	1SS133	SILICON	ROHM	
	D504	RD9.1JSB3	ZENER	NEC	
	D505	1SS133	SILICON	ROHM	
	D506	1SS133	SILICON	ROHM	
	D507	1SS133	SILICON	ROHM	
	D508	1SR139-200	SILICON	ROHM	
	D551	S3V20F	SILICON	SINDENGEN	
	D552	S3V20F	SILICON	SINDENGEN	
	D553	S3V20F	SILICON	SINDENGEN	
	D554	S3V20F	SILICON	SINDENGEN	
	D555	1SR139-200	SILICON	ROHM	
	D556	1SR139-200	SILICON	ROHM	
	D557	1SR139-200	SILICON	ROHM	
	D558	1SR139-200	SILICON	ROHM	
	D559	RD24JSB3	ZENER	NEC	
	D560	MTZ13JC	ZENER	ROHM	

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D564	MTZ12JC	ZENER	ROHM	
	D565	RD12JSB3	ZENER	NEC	
	D566	1SS133	SILICON	ROHM	
	D567	MTZ13JC	ZENER	ROHM	
	D568	RD6.8JSB3	ZENER	NEC	
	D569	RD12JSB3	ZENER	NEC	
	D570	MTZ10JC	ZENER	ROHM	
	D571	1SR139-200	SILICON	ROHM	
	D572	1SR139-200	SILICON	ROHM	
	D575	1SR139-200	SILICON	ROHM	
	D576	1SR139-200	SILICON	ROHM	
	D577	MTZ30JC	ZENER	ROHM	
	D578	1SS133	SILICON	ROHM	
	D585	MTZ11JC	ZENER	ROHM	
	D611	1SS133	SILICON	ROHM	
	D632	MTZ4.7JB	ZENER	ROHM	
	D633	1SS133	SILICON	ROHM	
	D634	MTZ5.1JB	ZENER	ROHM	
	D635	MTZ5.1JB	ZENER	ROHM	
	D636	1SS133	SILICON	ROHM	
	D639	1SS133	SILICON	ROHM	
	D640	1SS133	SILICON	ROHM	
	D642	1SR139-200	SILICON	ROHM	
	D681	1SS133	SILICON	ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C001	QCZ9050-103A	0.01MF		CERAMIC	
	C051	QETB1HM-106	10MF	50V	ELECTRO	
	C052	QETB1HM-227	220MF	50V	ELECTRO	
	C053	QCF21HP-103	0.01MF	50V	CERAMIC	
	C055	QETB1EM-477	470MF	25V	ELECTRO	
	C056	QETB1AM-107	100MF	10V	ELECTRO	
	C057	QETB1CM-226	22MF	16V	ELECTRO	
	C058	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C059	QCZ0205-155	1.5MF	25V	CERAMIC	
	C501	EEZ1005-106	10MF	100V	ELECTRO	
	C502	EEZ1005-106	10MF	100V	ELECTRO	
	C503	QCS21HJ-101	100PF	50V	CERAMIC	
	C504	QCS21HJ-101	100PF	50V	CERAMIC	
	C505	QCBB1HK-820	82PF	50V	CERAMIC	
	C506	QCBB1HK-820	82PF	50V	CERAMIC	
	C507	QETB1EM-107	100MF	25V	ELECTRO	
	C508	QETB1EM-107	100MF	25V	ELECTRO	
	C509	QCS21HJ-5R0	5PF	50V	CERAMIC	
	C510	QCS21HJ-5R0	5PF	50V	CERAMIC	
	C511	QETB1HM-226	22MF	50V	ELECTRO	
	C512	QETB1HM-226	22MF	50V	ELECTRO	
	C513	QETB1HM-476	47MF	50V	ELECTRO	
	C514	QETB1HM-226	22MF	50V	ELECTRO	
	C515	QFV81HJ-104	0.1MF	50V	T.FILM	
	C516	QFV81HJ-104	0.1MF	50V	T.FILM	
	C517	QFV81HJ-104	0.1MF	50V	T.FILM	
	C518	QETB1HM-105	1MF	50V	ELECTRO	
	C521	QCF21HP-102	1000PF	50V	CERAMIC	
	C522	QCSB1HJ-100	10PF	50V	CERAMIC	
	C523	QETB2AM-476	47MF	100V	ELECTRO	
	C525	QFV81HJ-104	0.1MF	50V	T.FILM	
	C526	QFV81HJ-104	0.1MF	50V	T.FILM	
	C527	QFV81HJ-104	0.1MF	50V	T.FILM	
	C531	QETB1HM-224	0.22MF	50V	ELECTRO	
	C532	QETB1HM-106	10MF	50V	ELECTRO	
	C533	QETB1HM-474	0.47MF	50V	ELECTRO	
	C534	QETB1HM-224	0.22MF	50V	ELECTRO	
	C536	QETB1HM-224	0.22MF	50V	ELECTRO	
	C539	QCF21HP-472	4700PF	50V	CERAMIC	
	C540	QETB1HM-227	220MF	50V	ELECTRO	
	C541	QETB1HM-227	220MF	50V	ELECTRO	
	C542	QETB1HM-226	22MF	50V	ELECTRO	
	C544	QETB1HM-226	22MF	50V	ELECTRO	
	C551	QCF21HP-473	0.047MF	50V	CERAMIC	
	C552	QCF21HP-473	0.047MF	50V	CERAMIC	
	C553	QFV81HJ-154	0.15MF	50V	T.FILM	
	C554	QETB1EM-228	2200MF	25V	ELECTRO	
	C555	QETB1EM-338	3300MF	25V	ELECTRO	
	C556	QCE22HP-103	0.01MF	500V	CERAMIC	
	C557	QCE22HP-103	0.01MF	500V	CERAMIC	
	C558	QCE22HP-103	0.01MF	500V	CERAMIC	
	C559	EEW4205-688T	6800MF		ELECTRO	
	C560	EEW4205-688T	6800MF		ELECTRO	
	C567	QETB1EM-106	10MF	25V	ELECTRO	
	C568	QCF21HP-103	0.01MF	50V	CERAMIC	
	C569	QETB1CM-226	22MF	16V	ELECTRO	
	C570	QETB1AM-476	47MF	10V	ELECTRO	
	C572	QETB1HM-225	2.2MF	50V	ELECTRO	
	C573	QETB1CM-226	22MF	16V	ELECTRO	
	C574	QCF21HP-103	0.01MF	50V	CERAMIC	
	C575	QETB1CM-226	22MF	16V	ELECTRO	
	C576	QCF21HP-103	0.01MF	50V	CERAMIC	
	C579	QETB1EM-338	3300MF	25V	ELECTRO	
	C585	QFN32AK-104	0.1MF	100V	MYLAR	F
	C587	QETB1CM-226	22MF	16V	ELECTRO	
	C589	QCF21HP-103	0.01MF	50V	CERAMIC	
	C591	QETB1CM-476	47MF	16V	ELECTRO	
	C595	EEZ1005-106	10MF	100V	ELECTRO	
	C596	EEZ1005-106	10MF	100V	ELECTRO	
	C597	QETB1HM-475	4.7MF	50V	ELECTRO	

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Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C598	QETB1HM-475	4.7MF	50V	ELECTRO	
	C599	QCZ020S-155	1.5MF	25V	CERAMIC	
	C601	QETB1HM-475	4.7MF	50V	ELECTRO	
	C602	QETB1HM-475	4.7MF	50V	ELECTRO	
	C606	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C611	QEK51CM-226	22MF	16V	ELECTRO	
	C612	QER51CM-476	47MF	16V	ELECTRO	
	C631	QETBOJM-477	470MF	6.3V	ELECTRO	
	C632	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C633	QETB1HM-105	1MF	50V	ELECTRO	
	C634	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C637	QETB1CM-476	47MF	16V	ELECTRO	
	C638	QCBB1HK-101	100PF	50V	CERAMIC	
	C639	QCBB1HK-101	100PF	50V	CERAMIC	
	C645	QER51CM-476	47MF	16V	ELECTRO	
	C646	QCF21HP-102	1000PF	50V	CERAMIC	
	C647	QER51HM-474G	0.47MF	50V	ELECTRO	
	C648	QER51HM-225G	2.2MF	50V	ELECTRO	
	C649	QER51CM-476	47MF	16V	ELECTRO	
	C650	QETBOJM-477	470MF	6.3V	ELECTRO	
	C933	QFN81HK-104	0.1MF	50V	MYLAR	
	C934	QFN81HK-104	0.1MF	50V	MYLAR	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
⚠	R001	QRC128K-275EM	2.7M	1/2W	COMPOSI	A
⚠	R051	QRG012J-221A	220	1W	O.M.FILM	A
⚠	R051	QRG012J-181AM	180	1W	O.M.FILM	B
⚠	R051	QRG012J-221A	220	1W	O.M.FILM	F
	R052	QRD167J-222	2.2K	1/6W	CARBON	
	R053	QRD167J-222	2.2K	1/6W	CARBON	
	R054	QRD167J-473	47K	1/6W	CARBON	
	R055	QRD167J-220	22	1/6W	CARBON	
⚠	R057	QRD14CJ-2R7S	2.7	1/4W	UNF.CARBON	B
⚠	R057	QRD14CJ-2R2S	2.2	1/4W	UNF.CARBON	F
⚠	R059	QRD14CJ-2R2S	2.2	1/4W	UNF.CARBON	
⚠	R060	QRD14CJ-1R0S	1	1/4W	UNF.CARBON	A
⚠	R500	QRG022J-181A	180	2W	O.M.FILM	A
⚠	R500	QRG022J-221A	220	2W	O.M.FILM	B
⚠	R500	QRG022J-221A	220	2W	O.M.FILM	F
	R501	QRD167J-102	1K	1/6W	CARBON	
	R502	QRD167J-102	1K	1/6W	CARBON	
	R503	QRD167J-473	47K	1/6W	CARBON	
	R504	QRD167J-473	47K	1/6W	CARBON	
⚠	R505	QRZ0077-391	390	1/4W	FUSIBLE	
⚠	R506	QRZ0077-391	390	1/4W	FUSIBLE	
	R507	QRD167J-471	470	1/6W	CARBON	
	R508	QRD167J-471	470	1/6W	CARBON	
	R509	QRD167J-563	56K	1/6W	CARBON	
	R510	QRD167J-563	56K	1/6W	CARBON	
⚠	R511	QRD14CJ-272S	2.7K	1/4W	UNF.CARBON	
⚠	R512	QRD14CJ-272S	2.7K	1/4W	UNF.CARBON	
⚠	R513	QRD14CJ-272S	2.7K	1/4W	UNF.CARBON	
⚠	R514	QRD14CJ-272S	2.7K	1/4W	UNF.CARBON	
⚠	R515	QRX012J-R22AM	0.22	1W	M.FILM	
⚠	R516	QRX012J-R22AM	0.22	1W	M.FILM	
⚠	R517	QRZ0077-101	100	1/4W	FUSIBLE	
⚠	R518	QRZ0077-100	10	1/4W	FUSIBLE	
⚠	R519	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R520	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R521	QRD14CJ-100S	10	1/4W	UNF.CARBON	
⚠	R522	QRD14CJ-100S	10	1/4W	UNF.CARBON	
	R523	QRD167J-823	82K	1/6W	CARBON	
	R524	QRD167J-104	100K	1/6W	CARBON	
	R525	QRD167J-104	100K	1/6W	CARBON	
⚠	R526	QRD14CJ-100S	10	1/4W	UNF.CARBON	
	R527	QRD167J-103	10K	1/6W	CARBON	
	R528	QRD167J-103	10K	1/6W	CARBON	
	R529	QRD167J-103	10K	1/6W	CARBON	
⚠	R530	QRD14CJ-100S	10	1/4W	UNF.CARBON	
	R531	QRD167J-182	1.8K	1/6W	CARBON	
	R532	QRD167J-103	10K	1/6W	CARBON	
	R533	QRD167J-103	10K	1/6W	CARBON	
	R534	QRD167J-473	47K	1/6W	CARBON	
	R535	QRD167J-332	3.3K	1/6W	CARBON	
	R537	QRD12CJ-331S	330	1/2W	R.NETWORK	
	R538	QRD12CJ-331S	330	1/2W	R.NETWORK	
	R539	QRD167J-221	220	1/6W	CARBON	
⚠	R542	QRD14CJ-100S	10	1/4W	UNF.CARBON	
	R543	QRD167J-300	30	1/6W	CARBON	A
	R543	QRD167J-180	18	1/6W	CARBON	B
	R543	QRD167J-180	18	1/6W	CARBON	F
⚠	R544	QRG022J-472AM	4.7K	2W	O.M.FILM	
	R545	QRD167J-102	1K	1/6W	CARBON	
	R546	QRD167J-222	2.2K	1/6W	CARBON	
	R550	QRD167J-562	5.6K	1/6W	CARBON	
	R551	QRD167J-104	100K	1/6W	CARBON	
	R552	QRD167J-104	100K	1/6W	CARBON	
⚠	R553	QRX012J-R22AM	0.22	1W	M.FILM	
	R556	QRD167J-152	1.5K	1/6W	CARBON	
	R558	QRD167J-472	4.7K	1/6W	CARBON	
⚠	R559	QRG022J-102AF	1K	2W	O.M.FILM	
⚠	R561	QRG022J-102AF	1K	2W	O.M.FILM	
⚠	R565	QRZ0077-100	10	1/4W	FUSIBLE	
	R567	QRD167J-163	16K	1/6W	CARBON	

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R568	QRD167J-163	16K	1/6W	CARBON	
	R569	QRD167J-473	47K	1/6W	CARBON	
	R570	QRD167J-473	47K	1/6W	CARBON	
	R571	QRD167J-104	100K	1/6W	CARBON	
	R575	QRD167J-163	16K	1/6W	CARBON	
	R576	QRD167J-163	16K	1/6W	CARBON	
	R577	QRD167J-473	47K	1/6W	CARBON	
	R578	QRD167J-473	47K	1/6W	CARBON	
⚠	R579	QRD14CJ-100S	10	1/4W	UNF.CARBON	
	R581	QRD167J-332	3.3K	1/6W	CARBON	
⚠	R583	QRD14CJ-4R7S	4.7	1/4W	UNF.CARBON	
	R584	QRD167J-332	3.3K	1/6W	CARBON	
⚠	R585	QRD14CJ-4R7S	4.7	1/4W	UNF.CARBON	
	R586	QRD167J-271	270	1/6W	CARBON	
	R587	QRD167J-104	100K	1/6W	CARBON	
	R588	QRD167J-104	100K	1/6W	CARBON	
	R589	QRD167J-471	470	1/6W	CARBON	
	R590	QRD167J-471	470	1/6W	CARBON	
	R595	QRD167J-362	3.6K	1/6W	CARBON	
	R596	QRD167J-362	3.6K	1/6W	CARBON	
	R599	QRD167J-102	1K	1/6W	CARBON	
	R600	QRD167J-102	1K	1/6W	CARBON	
	R601	QRD167J-473	47K	1/6W	CARBON	
	R602	QRD167J-473	47K	1/6W	CARBON	
	R603	QRD167J-104	100K	1/6W	CARBON	
	R604	QRD167J-104	100K	1/6W	CARBON	
	R605	QRD167J-104	100K	1/6W	CARBON	
	R606	QRD167J-104	100K	1/6W	CARBON	
	R611	QRD167J-103	10K	1/6W	CARBON	
	R612	QRD167J-222	2.2K	1/6W	CARBON	
	R613	QRD167J-152	1.5K	1/6W	CARBON	
	R614	QRD167J-104	100K	1/6W	CARBON	
	R625	QRD167J-104	100K	1/6W	CARBON	
	R626	QRD167J-473	47K	1/6W	CARBON	
	R627	QRD167J-472	4.7K	1/6W	CARBON	
	R628	QRD167J-103	10K	1/6W	CARBON	
	R632	QRD167J-222	2.2K	1/6W	CARBON	
	R633	QRD167J-472	4.7K	1/6W	CARBON	
	R634	QRD167J-332	3.3K	1/6W	CARBON	
	R635	QRD167J-153	15K	1/6W	CARBON	
	R636	QRD167J-104	100K	1/6W	CARBON	
	R637	QRD167J-151	150	1/6W	CARBON	
	R650	QRD167J-271	270	1/6W	CARBON	
	R651	QRD167J-271	270	1/6W	CARBON	
	R652	QRD167J-271	270	1/6W	CARBON	
	R653	QRD167J-271	270	1/6W	CARBON	
	R654	QRD167J-271	270	1/6W	CARBON	
	R655	QRD167J-271	270	1/6W	CARBON	
	R656	QRD167J-271	270	1/6W	CARBON	
	R657	QRD167J-271	270	1/6W	CARBON	
	R658	QRD167J-473	47K	1/6W	CARBON	
	R659	QRD167J-102	1K	1/6W	CARBON	
	R671	QRD167J-103	10K	1/6W	CARBON	
	R672	QRD167J-103	10K	1/6W	CARBON	
	R673	QRD167J-472	4.7K	1/6W	CARBON	
	R674	QRD167J-472	4.7K	1/6W	CARBON	
	R675	QRD167J-103	10K	1/6W	CARBON	
	R679	QRD167J-331	330	1/6W	CARBON	
	R680	QRD167J-391	390	1/6W	CARBON	
	R681	QRD167J-103	10K	1/6W	CARBON	
	R682	QRD167J-102	1K	1/6W	CARBON	
	R683	QRD167J-103	10K	1/6W	CARBON	
	R684	QRD167J-391	390	1/6W	CARBON	
	R685	QRD167J-103	10K	1/6W	CARBON	
	R686	QRD167J-474	470K	1/6W	CARBON	
	R687	QRD167J-101	100	1/6W	CARBON	
	R688	QRD167J-103	10K	1/6W	CARBON	
	R689	QRD167J-102	1K	1/6W	CARBON	
	R690	QRD167J-103	10K	1/6W	CARBON	
	R691	QRD167J-332	3.3K	1/6W	CARBON	
	R692	QRD167J-822	8.2K	1/6W	CARBON	
	R693	QRD167J-822	8.2K	1/6W	CARBON	
	R694	QRD167J-333	33K	1/6W	CARBON	
	R695	QRD167J-392	3.9K	1/6W	CARBON	
	R696	QRD167J-392	3.9K	1/6W	CARBON	
	R697	QRD167J-220	22	1/6W	CARBON	
	R698	QRD167J-220	22	1/6W	CARBON	
	R699	QRD167J-333	33K	1/6W	CARBON	

⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EWT011-092	TERMINAL WIRE	
		SBSG3010Z	SCREW	
		ETP1000-48JA	POWER TRANSFORMER	A
		E12259-002	CIRCUIT BOARD	A
		ETP1000-48FA	POWER TRANSFORMER	B
		E12259-102	CIRCUIT BOARD	B
		ETP1000-48EA	POWER TRANSFORMER	F
		E12259-102	CIRCUIT BOARD	F
	J501	EMB90TV-802A	SPEAKER TERMINAL	
	J502	QMS6312-025	HEADPHONE JACK	
	J521	EMV5125-013	PLUG ASSY	
	J561	EMN00TV-608A	6P PIN JACK	A
	J561	EMN00TV-604A	6P PIN JACK	B
	J561	EMN00TV-608A	6P PIN JACK	F
	J971	EMV7122-005	CONNECTOR	
	J972	EMV7122-103	CONNECTOR	
	J974	EMV7122-103	CONNECTOR	
	J975	EMV7122-103	CONNECTOR	
	K501	BNZ8101-007	FERRITE BEADS	
	K502	BNZ8101-007	FERRITE BEADS	
	L501	EQL0001-R45	INDUCTOR	
	L502	EQL0001-R45	INDUCTOR	
	L503	EQL0001-R45	INDUCTOR	
	P521	EMV7125-013R	CONNECTOR	
	P601	QMV5004-002	PLUG ASSY	
	S002	QSS1L22-E01	SLIDE SWITCH	B
	EP001	E70859-001	EARTH PLATE	
	EP002	E70859-001	EARTH PLATE	A
	FT001	EMG7331-002	FUSE CLIP	A
	FT001	EMG7331-002	FUSE CLIP	F
	FT002	EMG7331-002U	FUSE CLIP	A

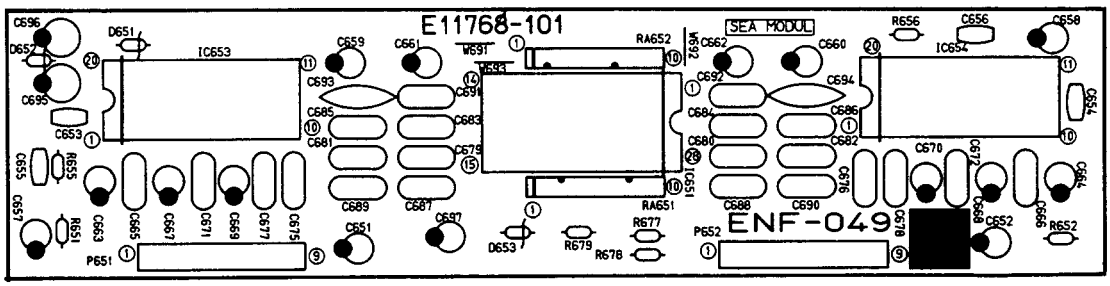
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	FT002	EMG7331-002U	FUSE CLIP	F
	FT003	EMG7331-002	FUSE CLIP	
	FT004	EMG7331-002U	FUSE CLIP	
	FT005	EMG7331-002	FUSE CLIP	
	FT006	EMG7331-002U	FUSE CLIP	
	FW501	EWR39B-20SST	FLAT WIRE	
	FW502	EWR37B-30LST	FLAT WIRE	
	FW511	EWR35B-40SST	FLAT WIRE	
	FW512	EWR33B-35SST	FLAT WIRE	
	FW551	EWR39B-20SST	FLAT WIRE	
	FW553	EWR33B-10LST	FLAT WIRE	
	FW681	EWR33B-10KST	FLAT WIRE	
	FW701	EWR37B-25LST	FLAT WIRE	
	HS557	E70945-H40B	HEAT SINK	
	HS581	E70945-H50B	HEAT SINK	
	JA211	EMV7127-011	CONNECTOR	
	JA311	EMV7127-015	CONNECTOR	
	JB901	EMV7123-028	CONNECTOR	
	JT503	EMV7122-103	CONNECTOR	
	JT504	EMV7122-004	CONNECTOR	
	RY001	ESK1D12-116M	RELAY	A
	RY001	ESK1D12-117M	RELAY	B
	RY001	ESK1D12-117M	RELAY	F
	RY501	ESK8D12-211M	RELAY	
	RY502	ESK8D12-211M	RELAY	
	SR681	ERT-D2WHK202S	THERMISTOR	
	TB001	E65508-002	TAB	
	TB002	E03891-001	TAB	
	TB003	E65508-002	TAB	B
	XT631	ECX0004-194KM	RESONATOR	

⚠ : SAFETY PARTS

■ ENF-049 □ SEA Module PC Board Ass'y

Note : ENF-049 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENF-049 B	the U.S.A., Australia Other Countries the U.K. (with LW) Continental Europe (with LW) Switzer Land (with LW)
ENF-049 C	West Germany (with LW) Italy (with LW)

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC651	LC7522	I.C. SANYO	
	IC653	LA3607S	I.C. SANYO	
	IC654	LA3607S	I.C. SANYO	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D651	RD6.8JSB3	ZENER NEC	
	D652	RD6.8JSB3	ZENER NEC	
	D653	MTZ5.1JB	ZENER ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C651	QEK51EM-475G	4.7MF 25V ELECTRO	
	C652	QEK51EM-475G	4.7MF 25V ELECTRO	
	C653	QCSB1HJ-470	47PF 50V CERAMIC	
	C654	QCSB1HJ-470	47PF 50V CERAMIC	
	C655	QCBB1HK-101	100PF 50V CERAMIC	
	C656	QCBB1HK-101	100PF 50V CERAMIC	
	C657	QEK51EM-475G	4.7MF 25V ELECTRO	
	C658	QEK51EM-475G	4.7MF 25V ELECTRO	
	C659	QEK51EM-475G	4.7MF 25V ELECTRO	
	C660	QEK51EM-475G	4.7MF 25V ELECTRO	
	C661	QEK51EM-475G	4.7MF 25V ELECTRO	
	C662	QEK51EM-475G	4.7MF 25V ELECTRO	
	C663	QEK51HM-474G	0.47MF 50V ELECTRO	
	C664	QEK51HM-474G	0.47MF 50V ELECTRO	
	C665	QFV81HJ-124	0.12MF 50V T.FILM	
	C666	QFV81HJ-124	0.12MF 50V T.FILM	
	C667	QEK51HM-224G	0.22MF 50V ELECTRO	
	C668	QEK51HM-224G	0.22MF 50V ELECTRO	
	C669	QEK51HM-224G	0.22MF 50V ELECTRO	
	C670	QEK51HM-224G	0.22MF 50V ELECTRO	
	C671	QFV81HJ-473	0.047MF 50V T.FILM	
	C672	QFV81HJ-473	0.047MF 50V T.FILM	
	C675	QFV81HJ-104	0.1MF 50V T.FILM	
	C676	QFV81HJ-104	0.1MF 50V T.FILM	
	C677	QFV81HJ-183	0.018MF 50V T.FILM	
	C678	QFV81HJ-183	0.018MF 50V T.FILM	
	C679	QFV81HJ-393	0.039MF 50V T.FILM	
	C680	QFV81HJ-393	0.039MF 50V T.FILM	
	C681	QFN81HJ-682	6800PF 50V MYLAR	
	C682	QFN81HJ-682	6800PF 50V MYLAR	
	C683	QFV81HJ-153	0.015MF 50V T.FILM	
	C684	QFV81HJ-153	0.015MF 50V T.FILM	
	C685	QFN81HJ-272	2700PF 50V MYLAR	
	C686	QFN81HJ-272	2700PF 50V MYLAR	
	C687	QFN81HJ-562	5600PF 50V MYLAR	

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C688	QFN81HJ-562	5600PF 50V MYLAR	
	C689	QFN81HJ-122	1200PF 50V MYLAR	
	C690	QFN81HJ-122	1200PF 50V MYLAR	
	C691	QFN81HJ-222	2200PF 50V MYLAR	
	C692	QFN81HJ-222	2200PF 50V MYLAR	
	C693	QCS21HJ-471	470PF 50V CERAMIC	
	C694	QCS21HJ-471	470PF 50V CERAMIC	
	C695	QETB1AM-107	100MF 10V ELECTRO	
	C696	QETB1AM-107	100MF 10V ELECTRO	
	C697	QETB1AM-107	100MF 10V ELECTRO	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R651	QRD167J-822	8.2K 1/6W CARBON	
	R652	QRD167J-822	8.2K 1/6W CARBON	
	R655	QRD167J-912	9.1K 1/6W CARBON	
	R656	QRD167J-912	9.1K 1/6W CARBON	
	R677	QRD167J-271	270 1/6W CARBON	

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R678	QRD167J-271	270 1/6W CARBON	
	R679	QRD167J-122	1.2K 1/6W CARBON	
	RA651	QRB099J-474	470K 1/10W R.NETWORK	
	RA652	QRB099J-474	470K 1/10W R.NETWORK	

⚠ : SAFETY PARTS

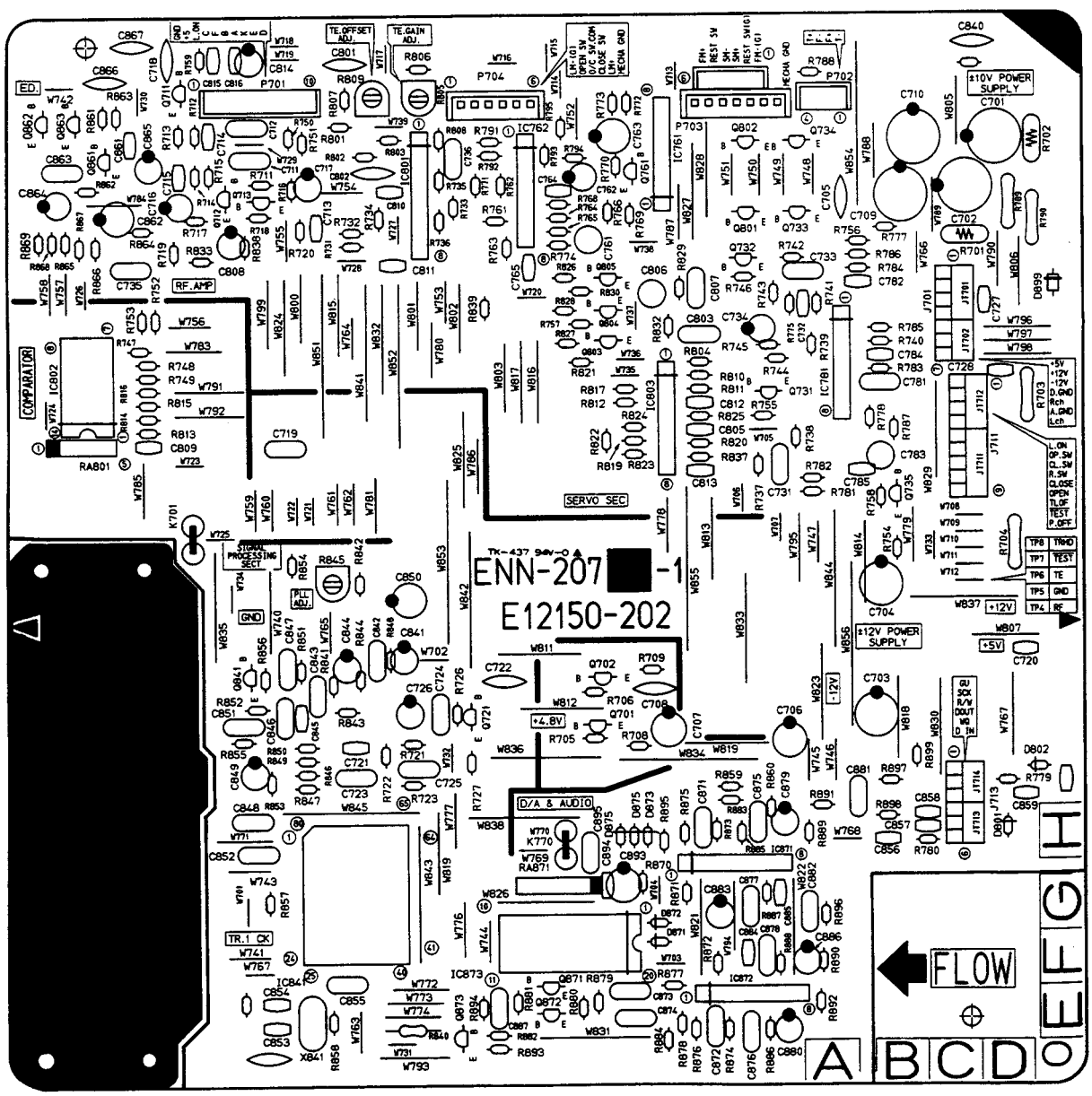
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E11768-101	CIRCUIT BOARD	
	P651	EMV5101-009B	PLUG ASSY	
	P652	EMV5101-009B	PLUG ASSY	

⚠ : SAFETY PARTS

■ENN-207 □ CD PC Board Ass'y

Note : ENN-207 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENN-207 [D]	the U.S.A.
ENN-207 [E]	Australia , Other Countries Continental Europe (with LW) the U.K. (with LW) Switzer Land (with LW)
ENN-207 [F]	West Germany (with LW) Italy (with LW)

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q701	2SA934(Q,R)	SILICON ROHM	
	Q702	DTC144WS	SILICON ROHM	
	Q711	2SC535(B,C)	SILICON HITACHI	
	Q712	2SC1740S(R,S)	SILICON ROHM	
	Q713	2SA933S(R,S)	SILICON ROHM	
	Q721	2SD2144S(VW)	SILICON ROHM	
	Q731	2SD2144S(VW)	SILICON ROHM	
	Q732	2SA933S(R,S)	SILICON ROHM	
	Q733	2SC2060(Q,R)	SILICON ROHM	
	Q734	2SB1357(E,F)	SILICON ROHM	
	Q735	DTA144WS	SILICON ROHM	
	Q761	2SD2144S(VW)	SILICON ROHM	
	Q801	2SD2037(E,F)	SILICON ROHM	
	Q802	2SB1357(E,F)	SILICON ROHM	
	Q803	2SD2144S(VW)	SILICON ROHM	
	Q804	2SD2144S(VW)	SILICON ROHM	
	Q805	2SD2144S(VW)	SILICON ROHM	
	Q841	2SD2144S(VW)	SILICON ROHM	
	Q861	2SA933S(R,S)	SILICON ROHM	
	Q862	2SC1740S(R,S)	SILICON ROHM	
	Q863	2SC1740S(R,S)	SILICON ROHM	
	Q871	2SD2144S(VW)	SILICON ROHM	
	Q872	2SD2144S(VW)	SILICON ROHM	
	Q873	DTA114YS	SILICON ROHM	

⚠ : SAFETY PARTS

I. C. s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC761	STA341M(A)	I.C. SANKEN	
	IC762	VC4580L	I.C. DAINICHI	
	IC781	VC4580L	I.C. DAINICHI	
	IC801	TL072S	I.C.	
	IC802	BA10339	I.C. ROHM	
	IC803	VC4580L	I.C. DAINICHI	
	IC841	YM7121B	I.C. YAMAHA	
	IC871	XRA15218N	I.C.	
	IC872	XRA15218N	I.C.	
	IC873	LC7881-C	I.C. SANYO	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D871	1SS133	SILICON ROHM	
	D872	1SS133	SILICON ROHM	
	D873	MTZ5.1JB	ZENER ROHM	
	D899	1SR139-200	SILICON ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C701	QETB1CM-477	470MF 16V ELECTRO	
	C702	QETB1CM-477	470MF 16V ELECTRO	
	C703	QETB1CM-227	220MF 16V ELECTRO	
	C704	QETB1CM-227	220MF 16V ELECTRO	
	C705	QCF21HP-223	0.022MF 50V CERAMIC	
	C706	QETB1CM-476	47MF 16V ELECTRO	
	C708	QCF21HP-223	0.022MF 50V CERAMIC	
	C709	QETB1CM-477	470MF 16V ELECTRO	
	C710	QETB1CM-477	470MF 16V ELECTRO	
	C711	QFN81HJ-472	4700PF 50V MYLAR	
	C712	QFN81HJ-472	4700PF 50V MYLAR	
	C713	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C714	QCSB1HJ-3R9	3.9PF 50V CERAMIC	
	C715	QCBB1HK-471	470PF 50V CERAMIC	
	C716	QETB1EM-106	10MF 25V ELECTRO	
	C717	QETB1CM-476	47MF 16V ELECTRO	
	C718	QCS21HJ-680	68PF 50V CERAMIC	
	C719	QFV81HJ-183	0.018MF 50V T.FILM	
	C720	QCVB1CM-103	0.01MF 16V CERAMIC	
	C721	QCSB1HJ-470	47PF 50V CERAMIC	

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C722	QCF21HP-223	0.022MF 50V CERAMIC	
	C723	QCZ0202-155	1.5MF 25V CERAMIC	
	C724	QFV81HJ-563	0.056MF 50V T.FILM	
	C725	QFV81HJ-564	0.56MF 50V T.FILM	
	C726	QETB1EM-106	10MF 25V ELECTRO	
	C731	QFV81HJ-183	0.018MF 50V T.FILM	
	C732	QCBB1HK-271	270PF 50V CERAMIC	
	C733	QFN81HK-393	0.039MF 50V MYLAR	
	C734	QEK51CM-226	22MF 16V ELECTRO	
	C735	QFV81HJ-104	0.1MF 50V T.FILM	
	C736	QFV81HJ-224	0.22MF 50V T.FILM	
	C761	QEN51HM-225	2.2MF 50V NON POLE	
	C762	QETB1EM-226	22MF 25V ELECTRO	
	C763	QETBOJM-227	220MF 6.3V ELECTRO	
	C764	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C765	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C781	QFN81HJ-272	2700PF 50V MYLAR	
	C782	QCBB1HK-101	100PF 50V CERAMIC	
	C783	QEN51HM-225	2.2MF 50V NON POLE	
	C784	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C785	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C801	QCT26CH-151	150PF 50V CERAMIC	
	C802	QCT26CH-121	120PF 50V CERAMIC	
	C803	QFV81HJ-223	0.022MF 50V T.FILM	
	C805	QCSB1HJ-4R7	4.7PF 50V CERAMIC	
	C806	QEN51HM-225	2.2MF 50V NON POLE	
	C807	QFV81HJ-563	0.056MF 50V T.FILM	
	C808	QETB1CM-476	47MF 16V ELECTRO	
	C809	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C810	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C811	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C812	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C813	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C815	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C816	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C841	QETB1AM-107	100MF 10V ELECTRO	
	C842	QFV81HJ-104	0.1MF 50V T.FILM	
	C843	QFV81HJ-104	0.1MF 50V T.FILM	
	C844	QETB1EM-106	10MF 25V ELECTRO	
	C845	QCBB1HK-101	100PF 50V CERAMIC	
	C846	QFV81HJ-224	0.22MF 50V T.FILM	
	C847	QFN81HJ-182	1800PF 50V MYLAR	
	C848	QFV81HJ-224	0.22MF 50V T.FILM	
	C849	QETB1EM-106	10MF 25V ELECTRO	
	C850	QETBOJM-227	220MF 6.3V ELECTRO	
	C851	QFV81HJ-104	0.1MF 50V T.FILM	
	C852	QFV81HJ-104	0.1MF 50V T.FILM	
	C853	QCSB1HJ-100	10PF 50V CERAMIC	
	C854	QCSB1HJ-100	10PF 50V CERAMIC	
	C855	QFV81HJ-224	0.22MF 50V T.FILM	
	C856	QCSB1HJ-470	47PF 50V CERAMIC	
	C857	QCBB1HK-101	100PF 50V CERAMIC	
	C858	QCBB1HK-101	100PF 50V CERAMIC	
	C859	QCSB1HJ-470	47PF 50V CERAMIC	
	C861	QCBB1HK-101	100PF 50V CERAMIC	
	C862	QETB1CM-107	100MF 16V ELECTRO	
	C863	QFN81HK-473	0.047MF 50V MYLAR	
	C864	QETB1EM-106	10MF 25V ELECTRO	
	C865	QETB1HM-105	1MF 50V ELECTRO	
	C871	QFN81HK-392	3900PF 50V MYLAR	
	C872	QFN81HK-392	3900PF 50V MYLAR	
	C873	QFV81HJ-683	0.068MF 50V T.FILM	
	C874	QFV81HJ-683	0.068MF 50V T.FILM	
	C875	QFV81HJ-103	0.01MF 50V T.FILM	
	C876	QFV81HJ-103	0.01MF 50V T.FILM	
	C877	QFN81HK-222	2200PF 50V MYLAR	
	C878	QFN81HK-222	2200PF 50V MYLAR	
	C879	QEK51EM-476	47MF 25V ELECTRO	
	C880	QEK51EM-476	47MF 25V ELECTRO	
	C881	QFN81HK-562	5600PF 50V MYLAR	
	C882	QFN81HK-562	5600PF 50V MYLAR	
	C883	QETB1EM-106	10MF 25V ELECTRO	
	C884	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C885	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C886	QETB1EM-106	10MF 25V ELECTRO	
	C887	QCF21HP-102	1000PF 50V CERAMIC	
	C893	QETBOJM-227	220MF 6.3V ELECTRO	
	C894	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C895	QFV81HJ-124	0.12MF 50V T.FILM	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R701	PTH61G30BD2R2N	FUSIBLE	
⚠	R702	PTH61G30BD2R2N	FUSIBLE	
⚠	R703	QRZ0077-100	10 1/4W FUSIBLE	
⚠	R704	QRZ0077-100	10 1/4W FUSIBLE	
	R705	QRD167J-472	4.7K 1/6W CARBON	
	R706	QRD167J-472	4.7K 1/6W CARBON	
	R708	QRD167J-222	2.2K 1/6W CARBON	
	R709	QRD167J-181	180 1/6W CARBON	
	R711	QRD167J-183	18K 1/6W CARBON	
	R712	QRD167J-432	4.3K 1/6W CARBON	
	R713	QRD167J-391	390 1/6W CARBON	
	R714	QRD167J-221	220 1/6W CARBON	
	R715	QRD167J-152	1.5K 1/6W CARBON	
	R716	QRD167J-561	560 1/6W CARBON	
	R717	QRD167J-561	560 1/6W CARBON	

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R718	QRD167J-562	5.6K	1/6W	CARBON	
	R719	QRD167J-152	1.5K	1/6W	CARBON	
	R720	QRD167J-271	270	1/6W	CARBON	
	R721	QRD167J-471	470	1/6W	CARBON	
	R722	QRD167J-682	6.8K	1/6W	CARBON	
	R723	QRD167J-472	4.7K	1/6W	CARBON	
	R726	QRD167J-102	1K	1/6W	CARBON	
	R727	QRD167J-183	18K	1/6W	CARBON	
	R731	QRD167J-104	100K	1/6W	CARBON	
	R732	QRD167J-104	100K	1/6W	CARBON	
	R733	QRD167J-394	390K	1/6W	CARBON	
	R734	QRD167J-394	390K	1/6W	CARBON	
	R735	QRD167J-121	120	1/6W	CARBON	
	R736	QRD167J-182	1.8K	1/6W	CARBON	
	R737	QRD167J-681	680	1/6W	CARBON	
	R738	QRD167J-473	47K	1/6W	CARBON	
	R739	QRD167J-331	330	1/6W	CARBON	
	R740	QRD167J-333	33K	1/6W	CARBON	
	R741	QRD167J-273	27K	1/6W	CARBON	
	R742	QRD167J-394	390K	1/6W	CARBON	
	R743	QRD167J-105	1M	1/6W	CARBON	
	R744	QRD167J-470	47	1/6W	CARBON	
	R745	QRD167J-473	47K	1/6W	CARBON	
	R746	QRD167J-272	2.7K	1/6W	CARBON	
	R747	QRD167J-682	6.8K	1/6W	CARBON	
	R748	QRD167J-104	100K	1/6W	CARBON	
	R749	QRD167J-562	5.6K	1/6W	CARBON	
	R750	QRD167J-105	1M	1/6W	CARBON	
	R751	QRD167J-105	1M	1/6W	CARBON	
	R752	QRD167J-104	100K	1/6W	CARBON	
	R753	QRD167J-562	5.6K	1/6W	CARBON	
	R754	QRD167J-104	100K	1/6W	CARBON	
	R755	QRD167J-103	10K	1/6W	CARBON	
	R756	QRD167J-470	47	1/6W	CARBON	
	R757	QRD167J-183	18K	1/6W	CARBON	
	R758	QRD167J-183	18K	1/6W	CARBON	
	R759	QRD167J-222	2.2K	1/6W	CARBON	
	R761	QRD167J-564	560K	1/6W	CARBON	
	R762	QRD167J-224	220K	1/6W	CARBON	
	R763	QRD167J-393	39K	1/6W	CARBON	
	R764	QRD167J-224	220K	1/6W	CARBON	
	R765	QRD167J-562	5.6K	1/6W	CARBON	
	R766	QRD167J-392	3.9K	1/6W	CARBON	
	R768	QRD167J-103	10K	1/6W	CARBON	
	R769	QRD167J-102	1K	1/6W	CARBON	
	R770	QRD167J-471	470	1/6W	CARBON	
	R771	QRD167J-683	68K	1/6W	CARBON	
	R772	QRD167J-183	18K	1/6W	CARBON	
	R773	QRD167J-183	18K	1/6W	CARBON	
	R774	QRD167J-470	47	1/6W	CARBON	
	R775	QRD167J-335	3.3M	1/6W	CARBON	
	R779	QRD167J-152	1.5K	1/6W	CARBON	
	R780	QRD167J-152	1.5K	1/6W	CARBON	
	R781	QRD167J-684	680K	1/6W	CARBON	
	R782	QRD167J-684	680K	1/6W	CARBON	
	R783	QRD167J-823	82K	1/6W	CARBON	
	R784	QRD167J-470	47	1/6W	CARBON	
	R785	QRD167J-683	68K	1/6W	CARBON	
	R786	QRD167J-123	12K	1/6W	CARBON	
	R787	QRD167J-152	1.5K	1/6W	CARBON	
	R788	QRD167J-2R2	2.2	1/6W	CARBON	
	R789	QRD12CJ-4R7S	4.7	1/2W	R.NETWORK	
	R790	QRD12CJ-4R7S	4.7	1/2W	R.NETWORK	
	R791	QRD167J-513	51K	1/6W	CARBON	
	R792	QRD167J-103	10K	1/6W	CARBON	
	R793	QRD167J-683	68K	1/6W	CARBON	
	R794	QRD167J-103	10K	1/6W	CARBON	
	R795	QRD167J-221	220	1/6W	CARBON	
	R801	QRD167J-563	56K	1/6W	CARBON	
	R802	QRD167J-563	56K	1/6W	CARBON	
	R803	QRD167J-394	390K	1/6W	CARBON	
	R804	QRD167J-681	680	1/6W	CARBON	
	R805	QVPA601-202A	2K		VARIABLE	
	R806	QRD167J-561	560	1/6W	CARBON	
	R807	QRD167J-334	330K	1/6W	CARBON	
	R808	QRD167J-222	2.2K	1/6W	CARBON	
	R809	QVPA601-154A	150K		VARIABLE	
	R810	QRD167J-223	22K	1/6W	CARBON	
	R811	QRD167J-682	6.8K	1/6W	CARBON	
	R812	QRD167J-103	10K	1/6W	CARBON	
	R813	QRD167J-562	5.6K	1/6W	CARBON	
	R814	QRD167J-562	5.6K	1/6W	CARBON	
	R815	QRD167J-562	5.6K	1/6W	CARBON	
	R816	QRD167J-562	5.6K	1/6W	CARBON	
	R817	QRD167J-183	18K	1/6W	CARBON	
	R819	QRD167J-103	10K	1/6W	CARBON	
	R820	QRD167J-224	220K	1/6W	CARBON	
	R821	QRD167J-183	18K	1/6W	CARBON	
	R822	QRD167J-183	18K	1/6W	CARBON	
	R823	QRD167J-434	430K	1/6W	CARBON	
	R824	QRD167J-434	430K	1/6W	CARBON	
	R825	QRD167J-103	10K	1/6W	CARBON	
	R826	QRD167J-184	180K	1/6W	CARBON	
	R827	QRD167J-184	180K	1/6W	CARBON	
	R828	QRD167J-184	180K	1/6W	CARBON	
	R829	QRD167J-681	680	1/6W	CARBON	
	R830	QRD167J-183	18K	1/6W	CARBON	
	R832	QRD167J-102	1K	1/6W	CARBON	
	R833	QRD167J-562	5.6K	1/6W	CARBON	
	R837	QRD167J-470	47	1/6W	CARBON	

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R838	QRD167J-562	5.6K	1/6W	CARBON	
	R839	QRD167J-183	18K	1/6W	CARBON	
	R840	QRD167J-561	560	1/6W	CARBON	
	R841	QRD167J-182	1.8K	1/6W	CARBON	
	R842	QRD167J-221	220	1/6W	CARBON	
	R843	QRD167J-184	180K	1/6W	CARBON	
	R844	QRD167J-393	39K	1/6W	CARBON	
	R845	QVPA601-104A	100K		VARIABLE	
	R846	QRD167J-224	220K	1/6W	CARBON	
	R847	QRD167J-182	1.8K	1/6W	CARBON	
	R848	QRD167J-272	2.7K	1/6W	CARBON	
	R849	QRD167J-822	8.2K	1/6W	CARBON	
	R850	QRD167J-822	8.2K	1/6W	CARBON	
	R851	QRD167J-821	820	1/6W	CARBON	
	R852	QRD167J-182	1.8K	1/6W	CARBON	
	R853	QRD167J-101	100	1/6W	CARBON	
	R854	QRD167J-155	1.5M	1/6W	CARBON	
	R855	QRD167J-682	6.8K	1/6W	CARBON	
	R856	QRD167J-682	6.8K	1/6W	CARBON	
	R857	QRD167J-102	1K	1/6W	CARBON	
	R858	QRD167J-105	1M	1/6W	CARBON	
	R859	QRD167J-271	270	1/6W	CARBON	
	R860	QRD167J-271	270	1/6W	CARBON	
	R861	QRD167J-103	10K	1/6W	CARBON	
	R862	QRD167J-272	2.7K	1/6W	CARBON	
	R863	QRD167J-102	1K	1/6W	CARBON	
	R864	QRD167J-271	270	1/6W	CARBON	
	R865	QRD167J-103	10K	1/6W	CARBON	
	R866	QRD167J-562	5.6K	1/6W	CARBON	
	R867	QRD167J-472	4.7K	1/6W	CARBON	
	R868	QRD167J-822	8.2K	1/6W	CARBON	
	R869	QRD167J-103	10K	1/6W	CARBON	
	R870	QRD167J-101	100	1/6W	CARBON	
	R871	QRD167J-222	2.2K	1/6W	CARBON	
	R872	QRD167J-222	2.2K	1/6W	CARBON	
	R873	QRD167J-751	750	1/6W	CARBON	
	R874	QRD167J-751	750	1/6W	CARBON	
	R875	QRD167J-471	470	1/6W	CARBON	
	R876	QRD167J-471	470	1/6W	CARBON	
	R877	QRD167J-221	220	1/6W	CARBON	
	R878	QRD167J-221	220	1/6W	CARBON	
	R879	QRD167J-105	1M	1/6W	CARBON	
	R880	QRD167J-105	1M	1/6W	CARBON	
	R881	QRD167J-392	3.9K	1/6W	CARBON	
	R882	QRD167J-392	3.9K	1/6W	CARBON	
	R883	QRD167J-821	820	1/6W	CARBON	
	R884	QRD167J-821	820	1/6W	CARBON	
	R885	QRD167J-821	820	1/6W	CARBON	
	R886	QRD167J-821	820	1/6W	CARBON	
	R887	QRD167J-272	2.7K	1/6W	CARBON	
	R888	QRD167J-272	2.7K	1/6W	CARBON	
	R889	QRD167J-273	27K	1/6W	CARBON	
	R890	QRD167J-273	27K	1/6W	CARBON	
	R891	QRD167J-561	560	1/6W	CARBON	
	R892	QRD167J-561	560	1/6W	CARBON	
	R893	QRD167J-104	100K	1/6W	CARBON	
	R894	QRD167J-105	1M	1/6W	CARBON	
	R895	QRD167J-681	680	1/6W	CARBON	
	R896	QRD167J-392	3.9K	1/6W	CARBON	
	R897	QRD167J-392	3.9K	1/6W	CARBON	
	R898	QRD167J-302	3K	1/6W	CARBON	
	R899	QRD167J-302	3K	1/6W	CARBON	
	RA801	QRB045J-472	4.7K	1/8W	R.NETWORK	
	RA871	QRB055J-224	220K	1/8W	R.NETWORK	

⚠ : SAFETY PARTS

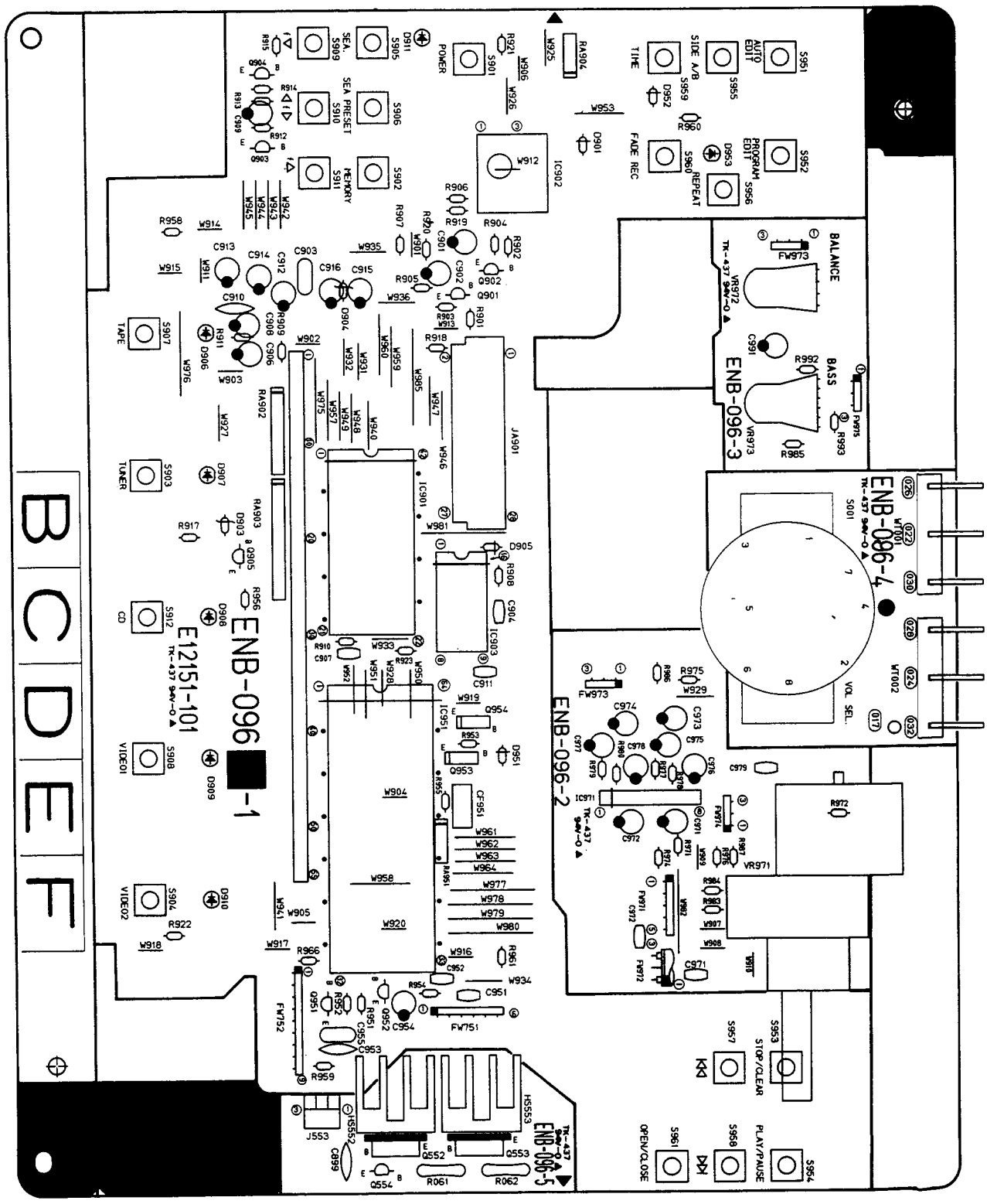
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E12150-202	CIRCUIT BOARD	
	K701	ENZ8101-008	FERRITE BEADS	
	K770	ENZ8101-008	FERRITE BEADS	
	P701	EMV5109-010A	PLUG ASSY	
	P702	EMV5109-004A	PLUG ASSY	
	P703	EMV5109-006A	PLUG ASSY	
	P704	EMV5133-006K	PLUG ASSY	
	JT701	EMV7122-004	CONNECTOR	
	JT702	EMV7122-103	CONNECTOR	
	JT711	EMV7122-005	CONNECTOR	
	JT712	EMV7122-004	CONNECTOR	
	JT713	EMV7122-103	CONNECTOR	
	JT714	EMV7122-103	CONNECTOR	
	XT841	ECX0169-344EA	RESONATOR	

⚠ : SAFETY PARTS

■ENB-096 □ Front PC Board Ass'y

Note : ENB-096 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENB-096 [B]	the U.S.A.
ENB-096 [C]	Other Countries
ENB-096 [D]	Australia, the U.K. (with LW) Continental Europe (with LW) Switzer Land (with LW)
ENB-096 [E]	West Germany (with LW) Italy (with LW)

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q552	2SB1187(E,F)	SILICON	ROHM	
	Q553	2SB1187(E,F)	SILICON	ROHM	
	Q554	2SA564A(Q,R)	SILICON	MATSUSHITA	
	Q901	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q902	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q903	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q904	2SC1685(Q,R)	SILICON	MATSUSHITA	
	Q905	DTC114YS	SILICON	ROHM	
	Q951	DTA114YS	SILICON	ROHM	
	Q952	DTA114YS	SILICON	ROHM	
	Q953	DTA114YFF	SILICON		
	Q954	DTC114YFF	SILICON	ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	IC901	LC7565	I.C.	SANYO	
	IC902	GP1U501X	I.C.	SHARP	
	IC903	XR-1091DCP	I.C.	EXAR JAPAN	
	IC951	HD614081SB22	I.C.	HITACHI	
	IC971	VC4580L	I.C.	DAINICHI	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D901	1SS133	SILICON	ROHM	
	D903	MTZ10JC	ZENER	ROHM	
	D904	MTZ5.6JC	ZENER	ROHM	
	D905	1SS133	SILICON	ROHM	
	D906	SLH-34VC3F	L.E.D.	ROHM	
	D907	SLH-34VC3F	L.E.D.	ROHM	
	D908	SLH-34VC3F	L.E.D.	ROHM	
	D909	SLH-34VC3F	L.E.D.	ROHM	
	D910	SLH-34VC3F	L.E.D.	ROHM	
	D911	SLH-34VC3F	L.E.D.	ROHM	
	D951	1SS133	SILICON	ROHM	
	D952	1SS133	SILICON	ROHM	
	D953	SLH-34VC3F	L.E.D.	ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C899	QCF21HP-103	0.01MF	50V	CERAMIC	
	C901	QEK51CM-226	22MF	16V	ELECTRO	
	C902	QEK51CM-226	22MF	16V	ELECTRO	
	C903	QFV81HJ-104	0.1MF	50V	T.FILM	
	C904	QCGB1HK-102	1000PF	50V	CERAMIC	
	C906	QEK51EM-475G	4.7MF	25V	ELECTRO	
	C907	QCBB1HK-151	150PF	50V	CERAMIC	
	C908	QEK51EM-475G	4.7MF	25V	ELECTRO	
	C909	QEK51HM-474G	0.47MF	50V	ELECTRO	
	C910	QCF21HP-103	0.01MF	50V	CERAMIC	
	C911	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C912	QETB1HM-226	22MF	50V	ELECTRO	
	C913	QEK51HM-475	4.7MF	50V	ELECTRO	
	C914	QEK51HM-475	4.7MF	50V	ELECTRO	
	C915	QETB1AM-107	100MF	10V	ELECTRO	
	C916	QETB1AM-107	100MF	10V	ELECTRO	
	C951	QCSB1HJ-470	47PF	50V	CERAMIC	
	C952	QCVB1CM-103	0.01MF	16V	CERAMIC	
	C953	QCF21HP-473	0.047MF	50V	CERAMIC	
	C954	QETB1AM-107	100MF	10V	ELECTRO	

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C973	QETB1AM-476	47MF	10V	ELECTRO	
	C974	QETB1AM-476	47MF	10V	ELECTRO	
	C975	QETB1HM-105	1MF	50V	ELECTRO	
	C976	QETB1HM-225	2.2MF	50V	ELECTRO	
	C977	QETB1HM-105	1MF	50V	ELECTRO	
	C978	QETB1HM-225	2.2MF	50V	ELECTRO	
	C979	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C991	QEK51HM-225G	2.2MF	50V	ELECTRO	
	C995	QETB1EM-476	47MF	25V	ELECTRO	
	C996	QETB1EM-476	47MF	25V	ELECTRO	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
⚠	R061	QRD14CJ-3R3S	3.3	1/4W	UNF.CARBON	
⚠	R062	QRD14CJ-3R3S	3.3	1/4W	UNF.CARBON	
	R901	QRD167J-103	10K	1/6W	CARBON	
	R902	QRD167J-103	10K	1/6W	CARBON	
	R903	QRD167J-105	1M	1/6W	CARBON	
	R904	QRD167J-105	1M	1/6W	CARBON	
	R905	QRD167J-153	15K	1/6W	CARBON	
	R906	QRD167J-153	15K	1/6W	CARBON	
	R907	QRD167J-562	5.6K	1/6W	CARBON	
	R908	QRD167J-152	1.5K	1/6W	CARBON	
	R909	QRD167J-474	470K	1/6W	CARBON	
	R910	QRD167J-183	18K	1/6W	CARBON	
	R911	QRD167J-334	330K	1/6W	CARBON	
	R912	QRD167J-473	47K	1/6W	CARBON	
	R913	QRD167J-473	47K	1/6W	CARBON	
	R914	QRD167J-103	10K	1/6W	CARBON	
	R915	QRD167J-103	10K	1/6W	CARBON	
	R917	QRD167J-223	22K	1/6W	CARBON	
	R919	QRD167J-103	10K	1/6W	CARBON	
	R920	QRD167J-103	10K	1/6W	CARBON	
	R921	QRD167J-331	330	1/6W	CARBON	
	R922	QRD167J-331	330	1/6W	CARBON	
	R923	QRD167J-333	33K	1/6W	CARBON	
	R951	QRD167J-104	100K	1/6W	CARBON	
	R952	QRD167J-104	100K	1/6W	CARBON	
	R953	QRD167J-103	10K	1/6W	CARBON	
	R954	QRD167J-103	10K	1/6W	CARBON	
	R955	QRD167J-105	1M	1/6W	CARBON	
	R956	QRD167J-103	10K	1/6W	CARBON	
	R958	QRD167J-103	10K	1/6W	CARBON	
	R959	QRD167J-332	3.3K	1/6W	CARBON	
	R960	QRD167J-331	330	1/6W	CARBON	
	R961	QRD167J-271	270	1/6W	CARBON	
	R966	QRD167J-472	4.7K	1/6W	CARBON	
	R971	QRD167J-271	270	1/6W	CARBON	
	R972	QRD167J-221	220	1/6W	CARBON	
	R974	QRD167J-271	270	1/6W	CARBON	
	R975	QRD167J-272	2.7K	1/6W	CARBON	
	R976	QRD167J-272	2.7K	1/6W	CARBON	
	R977	QRD167J-393	39K	1/6W	CARBON	
	R978	QRD167J-560	56	1/6W	CARBON	
	R979	QRD167J-393	39K	1/6W	CARBON	
	R980	QRD167J-560	56	1/6W	CARBON	
	R985	QRD167J-221	220	1/6W	CARBON	
	RA902	QRB099J-104	100K	1/10W	R.NETWORK	
	RA903	QRB139J-104	100K	1/10W	R.NETWORK	
	RA904	QRB049J-103	10K	1/10W	R.NETWORK	
	RA951	QRB049J-473	47K	1/10W	R.NETWORK	
	VR971	QVDB91A-E15B	100K		VARIABLE	
	VR972	QVCA84W-E15B	100K		VARIABLE	
	VR973	QVCBB4A-E53B	5K		VARIABLE	

⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E12151-101	CIRCUIT BOARD	
		SBSG30102	SCREW	
	J553	EMV7122-103	CONNECTOR	
⚠	S001	QSR0085-018	VOLTAGE SELECTOR	C
	S901	ESP0001-018	TACT SWITCH	
	S902	ESP0001-018	TACT SWITCH	
	S903	ESP0001-018	TACT SWITCH	
	S904	ESP0001-018	TACT SWITCH	
	S905	ESP0001-018	TACT SWITCH	
	S906	ESP0001-018	TACT SWITCH	
	S907	ESP0001-018	TACT SWITCH	
	S908	ESP0001-018	TACT SWITCH	
	S909	ESP0001-018	TACT SWITCH	
	S910	ESP0001-018	TACT SWITCH	
	S911	ESP0001-018	TACT SWITCH	
	S912	ESP0001-018	TACT SWITCH	
	S951	ESP0001-018	TACT SWITCH	
	S952	ESP0001-018	TACT SWITCH	
	S953	ESP0001-018	TACT SWITCH	
	S954	ESP0001-018	TACT SWITCH	
	S955	ESP0001-018	TACT SWITCH	
	S956	ESP0001-018	TACT SWITCH	
	S957	ESP0001-018	TACT SWITCH	
	S958	ESP0001-018	TACT SWITCH	
	S959	ESP0001-018	TACT SWITCH	

http://www.ManualsCenter.com

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	S960	ESP0001-018	TACT SWITCH	
	S961	ESP0001-018	TACT SWITCH	
	CF951	ECX0004-194KM	RESONATOR	
	FL901	ELU0001-102	FL TUBE	
	FS901	E3400-448	FELT SPACER	
	FW751	EWR36B-25LST	FLAT WIRE	
	FW752	EWR39B-25LST	FLAT WIRE	
	FW971	EWR35B-25LST	FLAT WIRE	
	FW972	EWR23C-30JN	FLAT WIRE	
	FW973	EWR33B-16SST	FLAT WIRE	
	FW974	EWR33B-16LST	FLAT WIRE	
	FW975	EWR33B-35LST	FLAT WIRE	
	HS552	E70945-H40B	HEAT SINK	
	HS553	E70945-H40B	HEAT SINK	
	JA901	EMV7123-028R	CONNECTOR	
	WT001	E67764-303	WRAPPING TERMINAL	C
	WT002	E67764-303	WRAPPING TERMINAL	C

⚠ : SAFETY PARTS